

PROCEEDINGS
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NEW BRAZILIAN THYSANOPTERA

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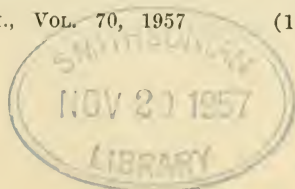
The following descriptions are presented with some reluctance, because there seems to be no way by which they can be accompanied by illustrations. However, carefully-made measurements have been given; and these, especially in the case of the head, could quickly be plotted on coordinate paper to form a moderately satisfactory picture, especially if a worker's experience has given him some familiarity with the particular genus or larger group. In any event, measurements are essential to any proper treatment of the species in this order of insects, and their omission from some current descriptions interposes difficulties in the path of other workers.

Measurements are in microns, except as otherwise stated. Almost invariably they are of the holotype, but have occasionally been supplemented by those of a topotypic paratype. Types, as usual, are in the author's collection.

Erythrothrips loripes, sp. nov.

Like *costalis* and *brasiliensis* in that the fore wings have a narrow, dark, costal band in addition to the broad band along posterior margin; but agreeing only with the former of these in having the head long (1.4 times as long as the width across eyes), differing from it in that the hind femora are strongly bent or curved at base, and the hind tibiae have a dense brush of long, roughened hairs extending along most of inner surface.

♂ (macropterous).—Length about 2.5 mm. (fully distended, 2.9 mm.). Color nearly uniform blackish brown, with red internal pigmentation, head somewhat darker; legs concolorous with body; fore wings blackish brown in about posterior half (including anal lobe), with a narrow dark line along costal margin in distal two thirds, and with a paler submarginal basal dark line which disappears at about middle of wing; antennae blackish brown except for the yellowish apical portion of segment II and the similarly colored basal two-fifths of III. Head 302, across eyes 216, just behind eyes 209, in front of basal collar 181, across basal collar 182, width in front of eyes 108; surface finely and closely cross-striate; eyes 102 long dorsally, 65 wide, 86 apart, ventrally prolonged and 127 long, 85 apart posteriorly, 66 wide; median ocellus 23, posterior ones 26, these last



36 apart and 30 from median; mouth-cone extending 126 beyond posterior dorsal margin of head, maxillary palpi 7-8 segmented. Antennal segments: I 60 (50), II 72 (39), III 185 (37), IV 159 (37), V 110 (35), VI 103 (33), VII 76 (31), VIII 31 (17), IX 17 (9). Prothorax 210, across coxae 294, exclusive of coxae 274, its structure and that of pterothorax normal; metanotal pelta somewhat elevated, sculptured throughout in the usual manner. Legs normal, except that the hind femora are curved strongly inward from near base, and the hind tibiae have a dense brush of roughened hairs extending along inner surface from near base; these hairs gradually decreasing in length toward apex of tibiae. Fore wings normal, 1270. Abdomen normal, without lateral flanges or lobes at sides of terga, VIII with anterior margin shallowly emarginate and its posterior margin deeply and roundly emarginate, IX with anterior margin deeply emarginate; seta I on IX 196, II 276, I-III on X each about 280.

BRAZIL: Nova Teutonia, S. C., Fritz Plaumann, May 20, 1949, 1 ♂ (holotype) without further data; and January, 1954, 1 ♂ from grasses.

Echinothrips asperatus, sp. nov.

Unlike all known congeners in that the third to fifth abdominal sterna are pale and membranous medially in about posterior two-fifths or one-half of median third (the second sternum less extensively weakened), and in having the large setae on fore wings, head, and pronotum asperate, rather than knobbed or pointed.

♀ (macropteros).—Length about 1.2 mm. (fully distended, 1.4 mm.). Color dark brown, with red internal pigmentation; fore legs yellow, lightly shaded at middle of femora; mid and hind tarsi and distal halves of their tibiae yellow, remainder of legs dark brown except for paler bases of femora; fore wings light gray; antennae dark brown in segments I and II, somewhat paler in VI-VIII, remainder pale yellow with III shaded in constricted portion just beyond pedicel and V very lightly shaded apically. Head 150, across eyes 148, greatest width across cheeks 139, at base 118, across frontal costa 20; cheeks slightly concave, serrate in about basal half, sculpture and chaetotaxy normal (much as illustrated for *subflavus*), but with the larger setae asperate, a few of the reticles roughened; mouth-cone and maxillary palpi normal. Antennal segments: I 23 (30), II 41 (27), III 54 (16), IV 44 (16-17), V 48 (16), VI 57 (16), VII 17 (8), VIII 26 (6); segments normal in form, chaetotaxy, and disposition of sense-cones, except that the stout subapical dorsal setae on II are asperate in about apical half. Prothorax 110, across coxae 180; sculpture of pronotum normal; major setae asperate, the outer and inner pairs at posterior angles largest and respectively about 59 and 40; fore wings 840, costa with 17 long setae, vein with 13-14, these (excepting the two apical ones on costa) asperate in apical half or more, those at middle of costa about 94, at middle of vein 70. Abdomen remarkable in that sterna II-V are emarginate posteriorly, the emargination of II narrow, that of III-V extending nearly to middle of sclerite and occupying about one-third of its width, these areas pale, somewhat irregular, and apparently membranous; sculpture normal, terga II-VI with numerous long microtrichia arising from the more posterior raised lines at sides; setae normal, disposed as usual, not asperate apically.

BRAZIL: Nova Teutonia, S. C., 1954, Fritz Plaumann, 1 ♀ (holotype) under fallen leaves.

Pseudothrips interruptus, sp. nov.

Very close to *spadix*, but with the comb on posterior margin of seventh abdominal tergum broadly interrupted at middle.

♀ (macropterous).—Length about 2.5 mm. (fully distended, 2.9 mm.). Color brown, paler in basal abdominal segments, shading to blackish brown in sides of last two abdominal segments; legs about concolorous with body, with tarsi, trochanters, both ends of all tibiae, sides of fore femora and tibiae, and bases of all femora, yellow; fore wings pale brown, lighter medially, anal lobe not darkened; antennae with segments I and II blackish brown, III yellow in pedicel and pale yellowish brown beyond, IV yellow at base, somewhat darkened to third whorl of microtrichia, rather abruptly blackish brown in remainder, V with pedicel dark, then yellow to first whorl of microtrichia, somewhat darkened to second whorl, its remainder and VI-IX blackish brown. Head 183 from base of cheeks to tip of front, 196 across eyes, 183 just behind eyes, 189 across cheeks, 175 across base; surface lightly striate in front of ocelli, smooth between them, and distinctly cross-striate behind them, the evenly rounded cheeks serrate; interocellar setae 58, dark and strong; eyes about 109. Pronotum 176, its width 238; surface with a few obscure cross-striae along front and hind margins and a dark line marking the posterior margin of a groove which is concentric with posterior margin; one pair of long setae at posterior angles, this 101 and nearly black; posterior margin with four pairs of setae, the mediad one 31; anterior angles with two pairs of moderately large setae, the upper 35. Mesothorax 283 across anterior angles, 340 in greatest width; anterior metanotal sclerite very sharply polygonally reticulate, the lines fine; fore wings 1040, with about 32 strong dark setae on costa, 22-25 on anterior vein, and 17-19 on posterior one. Abdomen 392 at segment IV; terga II-VII with posterior margin fringed at sides with microtrichia (only a few on the more basal terga), VIII with a complete comb; setae conspicuous, nearly black, I-III on IX respectively 161, 178, and 180, I-III on X 148, 157, and 133.

♂ (macropterous).—Much paler than female; front of head nearly colorless, its remainder much darker than the brownish yellow thorax; pronotum with obscure brown shading which includes a cloud extending toward anterior angles from middle; legs yellow, with middle portions of all femora and tibiae shaded; antennae with segments I and II largely gray, III yellow but very lightly shaded in its narrowed apex, IV and V nearly one-half yellow, except for the dark pedicel of V. Abdomen with microtrichia and the comb on tergum VIII as in female; sterna III-VIII each with a large, pale, transversely-elliptical glandular area; tergum IX with a pair of stout, thorn-like setae behind middle, posterior margin with a median tooth.

BRAZIL: Nova Teutonia, S. C., May 20 and November 17-18, 1949, Fritz Plaumann, 1 ♀ (holotype, taken May 20) and 3 ♂ ♂ (including allotype, taken May 20), from a plant which has not yet been determined.

Udeothrips, gen. nov.

(*oudas*, surface of the ground; *thrips*—in allusion to the habitat)

Allied to *Malacothrips* Hinds, but differing particularly in the large, finely-faceted eyes, which are close together and between which are five

pairs of setae, three of them in the ocellar area, two behind it. Head moderately long, somewhat broader across eyes than across cheeks, deeply incised behind eyes; eyes finely faceted, much broader than their interval, inner margins slightly sinuate; postocular setae normal, knobbed; other setae small and pointed, three pairs anterior to the paired ocelli, two pairs behind ocelli between eyes; surface of head completely sculptured with striae and reticles; mouth-cone moderately short, labium rounded. Antennae 8-segmented, terminal segment pedicellate, setae all pointed, sense-cones long. Prothorax normal, very delicately reticulate almost throughout; epimeron not fused with notum; antero-marginal setae well developed, coxal present, all knobbed; legs normal but slender, fore tarsi of female nearly or quite unarmed; wings nearly straight, at middle slightly narrowed and with the usual small pocket, with a few accessory setae on posterior margin, the three subbasal setae subequal and knobbed. Abdomen normal, with the usual wing-retaining setae, most of its dorsal surface very delicately polygonally reticulate; major setae largely knobbed; tube much shorter than head, not thickened, nearly smooth.

Type species: *Udeothrips vigilatus*, sp. nov.

***Udeothrips vigilatus*, sp. nov.**

♀ (macropterous).—Length about 1.7 mm. (fully distended, 2.1 mm.). Color yellow, cheeks edged with brown, ocellar area lightly shaded, tube brownish yellow in basal two-fifths and abruptly gray beyond; legs concolorous with body; fore wings brown but paler basally (except for anal lobe) as well as at middle and again at tip; antennae brown in segments I and II, yellow beyond, the segments beyond III shaded with brown except at base. Head 280 μ long, 182 across eyes, 154 just behind eyes, 178 across cheeks, 161 near base, 162 at basal collar, 78 across head-process; dorsal surface completely but delicately sculptured, polygonally reticulate in ocellar area, between eyes, just behind eyes, and narrowly across base, the cheeks and remainder closely cross-striate, the cheeks thus serrulate in dorsal aspect; postocular setae straight, expanded apically, 63 long, 99 apart, 30 from eyes; other setae short and pointed, two or three genal pairs borne on low eminences; eyes 114 long, 68 wide, 47 apart; ocelli close together, interval between posterior pair less than their diameter. Antennal segments: I 40 (41), II 56 (33), III 80 (28), IV 70 (26), V 70 (22), VI 69 (20), VII 57 (19), VIII missing in type; sense-cones (major) on III and IV 1 (1). Prothorax 120, across coxae 321, surface completely but very inconspicuously polygonally reticulate excepting the cross-striate posterior margin; mesonotum cross-striate, pelta of metanotum delicately reticulate; all setae present, straight, expanded at tip, antero-marginals 36, antero-angulars and mid-laterals 49, epimerals 64, postero-marginals 45, coxals 32; fore wings with 5 accessory setae. Abdomen 322 at segment IV; tube 120, across basal collar 72, at tip 37, terminal setae 224; IX with setae pointed, I 90, II 125.

BRAZIL: Rio Caraguatá, Matto Grosso, 1953, Fritz Plaumann, 1 ♀ (holotype) from fallen leaves.

***Pleurothrips*, gen. nov.**

(*pleura*, side; *thrips*—in allusion to the dorso-pleural line of abdomen)

Allied to *Eurythrips* Hinds, but differing particularly in the large, finely-faceted eyes, longer mouth-cone, moderately large antero-marginal

prothoracic setae but greatly reduced antero-angulars, very small and narrow metanotal scutellum, elongated abdominal sterna VII and VIII, slender legs, and, especially, in the dorsal position of the dorso-pleural line on abdominal segments II-VII. Head incised behind eyes, the latter as long as their distance from base of head; mouth-cone more than one-half the length of head, not narrowed basally, rounded at tip. Antennae 8-segmented, last segment somewhat narrowed at base, all setae pointed. Pronotum virtually without sculpture, fused with epimeron; legs slender, fore tarsi unarmed in both sexes; wings somewhat curved, at middle scarcely narrowed and without pocket, posterior margin with a few accessory setae, the three subbasal setae subequal and knobbed; metathoracic scutellum lobate, much narrower than scutum. Abdomen slender, with terga II-VII not attaining lateral margin, the dorso-pleural line thus paralleling the margin dorsally; sigmoid wing-retaining setae present on terga II-VII; tube much shorter than head, not thickened, nearly smooth.

Type species: *Eurythrips collaris* Hood.

Schazothrips, gen. nov.

(*schazos*, to let go or let loose; *thrips*—in allusion to the lack of wing-retaining setae even in macropterous individuals)

Allied to *Malacothrips* Hinds. Head moderately long, slightly produced, deeply incised behind eyes, the latter thus strongly protruding; head very lightly reticulate at extreme base dorsally, more strongly so in ocellar area, along cheeks, and posterior to eyes; postocular and post-ocellar setae about equal, moderately strong, knobbed; eyes moruloid, coarsely faceted; mouth-cone short, broadly rounded. Antennae 8-segmented, terminal segment pedicellate, setae and sense-cones long and pointed. Prothorax normal; epimeron not fused with notum; antero-marginal and the other usual setae well developed, coxal present, all knobbed; legs normal, fore tarsi of female with a slight projection at middle of inner surface, those of male with a strong tooth; wings nearly straight, slightly narrowed at middle, without accessory setae on posterior margin, the three subbasal setae subequal and knobbed. Abdomen remarkable in lacking sigmoid wing-retaining setae, their homologues small and straight; median tergite of segment I reticulate, as is most of tergum II, remainder of abdomen lightly sculptured only at sides; major setae mostly knobbed; tube much shorter than head, not thickened, with faint scallop-like reticulation.

Type species: *Schazothrips anadenus*, sp. nov.

Schazothrips anadenus, sp. nov.

♀, *forma macroptera*.—Length about 1.9 mm. (fully distended, 2.3 mm.). Color yellow; second abdominal segment darkened with brown or gray, but paler posteriorly, especially at middle; ocellar area lightly shaded with brown; legs concolorous with body; antennae brown, paler and more yellowish in first two segments, yellow at base of third, remainder dark brown; fore wings nearly uniform brown. Head 290 μ long, 172 across eyes, 134 just behind them, 175 across cheeks, 155 near base, 165 across basal collar, width of head-process 95; head prominently reticulated in groove back of eyes; postocular setae knobbed, 47 long, 135 apart, 44 from eyes; postocellar setae similar, about 52 long and 55

apart; eyes with 5 or 6 lateral facets. Antennal segments: I 46 (47), II 57 (35), III 66 (32), IV 66 (31), V 69 (28), VI 61 (24), VII 57 (23), VIII 41 (14); sense-cones on III 1 (2), IV 2 (2). Prothorax about 144 long, 336 across coxae, with a few marginal lines of sculpture; antero-marginal setae 37, antero-angular 43, midlateral 45, epimeral 62, postero-marginal 45, coxal 53, all knobbed; mesothorax 343 across anterior angles; fore wings 910; fore tarsi with a slight thickening at middle of inner surface; pelta of metanotum subtriangular, distinctly reticulate. Abdomen 365 at segment IV; median tergite of I about semicircular, reticulate; II reticulate except posteriorly, many of the reticles mucronate, the succeeding segments with some slight sculpture; terga without sigmoid wing-retaining setae; tube 146, across basal collar 87, at tip 39, terminal setae 147; seta I on IX 121, II 155, both pointed but rapidly tapering at tip.

♀, *forma aptera*.—Color and structure apparently identical with that of long-winged form, except for the absence of ocelli; eyes little or no smaller.

♂ (apterous).—Length about 1.6 mm. (fully distended, 2.0 mm.). Color and structure as in long-winged female, but with fore tarsi strongly toothed at base; sterna without glandular areas.

BRAZIL: Nova Teutonia, S. C., May, 1953, to October, 1955 (holotype and allotype on latter date); Erechim, Rio Grande do Sul, August, 1956. All specimens (63 ♀♀ and 30 ♂♂) were taken by Mr. Fritz Plaumann from fallen leaves.

Eurythrips alarius, sp. nov.

Agreeing only with the following species (*peccans*) in having both pairs of setae on anterior margin of pronotum reduced in size; differing from that species in having head and most of body blackish brown, tube dark brown, with its two basal pores dorsal in position, and fourth antennal segment with only one sense-cone on inner surface, most unusual in that only the third subbasal wing-seta is large (in macropterous form).

♀ (macropterous).—Length about 1.7 mm. (fully distended, 2.2 mm.). Color light blackish brown, darker toward tip of abdomen, with metathorax much paler and yellowish; tube dark blackish brown but paler across base and apically; head darker than prothorax, abdominal terga II-VIII shaded along posterior margin; legs pale yellowish, femora somewhat shaded with brown; fore wings gray-brown, paler at base in front of anal lobe, and with a pale streak paralleling posterior margin in apical half; antennae with segment I and base and sides of II concolorous with head, remainder gray-brown with apical portion of II and pedicel of III yellow, the more apical segments darkest. Head 203, across eyes 144, just behind eyes 138, across cheeks 160, near base 158, across head-process 80; surface nearly smooth, with a few striae behind eyes and along sides, briefly reticulate across base; setae normal, postoculars 79, dull at tip, interval 148, distance from eyes 20; eyes 63, about 44 wide, about 56 apart; mouth-cone normal, 90. Antennal segments: I 39 (42), II 51 (34), III 63 (34), IV 60 (34), V 60 (32), VI 52 (30), VII 41 (23), VIII 40 (17), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 123, across coxae 280, pronotum with a few faint striae along posterior margin; antero-marginal setae vestigial, antero-angulars 33 and finely pointed, midlaterals 85, epimerals 93, postero-marginals 97 (all of these

dull at tip), coxals pointed, 27; mesothorax 290 across anterior angles; pelta of metanotum slightly elevated, outlined by reticulation, almost perfectly smooth medially; fore tarsi toothed on inner surface. Abdomen 357 at segment IV, nearly smooth, most setae dull or very slightly broadened at tip; tube 140, across base 73, at tip 37, terminal setae 85; setae on IX pointed, I 130, II 170.

BRAZIL: Nova Teutonia, S. C., November 1956, Fritz Plaumann, 1 ♀ (holotype), under fallen leaves.

Eurythrips peccans, sp. nov.

Agreeing only with the preceding species (*alarius*) in having both pairs of setae on anterior margin of pronotum reduced in size; differing from that species in having head and most of body yellow, tube nearly or quite yellow (but tipped with gray), with its two basal pores lateral in position, and fourth antennal segment with two sense-cones on inner surface.

♀ (brachypterous).—Length about 1.3 mm. (fully distended, 1.7 mm.). Color golden yellow (with red internal pigmentation), prothorax and front and sides of mesothorax darkened, abdomen brown in segment II and often darkened in some of following segments, tube yellow, tipped with gray; coxae brown, femora shaded except apically, tibiae and tarsi yellow; antennae yellow in segments I, II, and basal third of III, remainder blackish brown. Head 182, across eyes 130, behind eyes 120, across cheeks 142, near base 133, across head-process 80; surface rugose-reticulate in ocellar area, lightly reticulate across base, cheeks striate and rather strongly serrate, remainder smooth; postocular setae 48, slightly widened at tip, interval 84, distance from eyes 23; eyes 46, width 33, interval 64; mouth-cone normal, 57. Antennal segments: I 40 (39), II 46(33), III 59 (33), IV 56 (33), V 51 (30), VI 50 (27), VII 42 (24), VIII 37 (14), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 118, across coxae 252, pronotum with a few striae along posterior margin, remainder smooth; antero-marginal and antero-angular setae vestigial, 3 or 4 long, midlaterals 52, epimerals and postero-marginals 67, coxals 28, these all slightly dilated at tip; mesothorax 238 across anterior angles; metanotum without well-differentiated pelta, nearly smooth; wing-pads minute, nearly circular, with one long seta; fore tarsi with a minute tooth on inner surface. Abdomen 281 at segment IV; median tergite of I lightly reticulate anteriorly; remainder of dorsal surface nearly smooth; tube 113, across base 68, at tip 33, terminal setae 74; most setae slightly broadened apically, those on IX pointed, I 116, II 131.

♂ (brachypterous).—Like ♀ in color; glandular area on sternum VIII confined to a narrow band along anterior margin.

BRAZIL: Nova Teutonia, S.C., May 1953—October 1955, Fritz Plaumann, 19 ♀♀ and 1 ♂ (including holotype and allotype taken in April 1954), from fallen leaves.

Eurythrips pusillus, sp. nov.

Distinctive because of small size (1.4 mm. long when well distended, head only 136 μ), presence of two sense-cones on inner surface of segment IV of antennae (in both long- and short-winged forms), and pointed post-ocular and prothoracic setae.

♀, *forma macroptera*.—Length about 1.1 mm. (distended, 1.4 mm.). Color yellowish brown throughout, tube not paler at base nor apically, darkest in fore coxae and along sides of thorax; femora somewhat paler than body and yellow at either end, tibiae paler, yellow at tip, tarsi yellow; fore wings brown throughout; antennae concolorous with head in segments I and II, III-VIII blackish brown, III paler than those beyond and with pedicel yellow. Head 136, across eyes 111, behind eyes 103, across cheeks 117, near base 109, across basal collar 114, across head-process 68; surface obscurely reticulate in ocellar area, cheeks widely cross-striate, remainder smooth; postocular setae 48, pointed, interval 80, distance from eyes 13; eyes 40, width 31, interval 48; mouth-cone normal, 69. Antennal segments: I 34 (33), II 43 (27), III 40 (29), IV 40 (27), V 45 (27), VI 43 (24), VII 36 (20), VIII 41 (14), sense-cones on III 1 (2), IV 2 (2), all setae pointed. Prothorax 94, across coxae 216, pronotum smooth, without striae along posterior margin; antero-marginal setae very fine and 18 long, anteroangulars 41, midlaterals 38, epimerals and postero-marginals 68, coxals 15, all pointed; mesothorax 224 across anterior angles; metanotum with slightly elevated triangular pelta whose sides end posteriorly at the two major setae, surface smooth; fore tarsi with minute tooth on inner surface. Abdomen 251 at segment III, median tergite of segment I smooth, remainder of dorsal surface almost smooth; tube 104, across base 63, at tip 31, terminal setae 76; all setae pointed, IX with I and II 119-123.

♀, *forma brachyptera*.—Paler than macropterous form, especially head and tube, these nearly yellow, the latter gray at tip; legs little or not shaded; antennae concolorous with head in segments I and II, remainder often nearly black, with III yellow in pedicel but often paler throughout.

BRAZIL: Nova Teutonia, S.C., May 1953 to October 1955, 8 ♀♀ (1, the holotype, macropterous, taken in February 1954, the others brachypterous); Erechim, Rio Grande do Sul, August 1956, 1 brachypterous ♀. All were taken from fallen leaves by Fritz Plaumann.

Eurythrips conformis, sp. nov.

Close to *costalimai*, agreeing with it in the thoroughly normal size and placement of the pronotal setae, the relatively smooth head, the presence of two sense-cones on outer surface of third antennal segment, the brown fourth and fifth antennal segments, and the smooth metanotum; but with head and body largely golden yellow, submedian setae on abdominal terga II and III dark and fully one-third the length of segment, more slender antennae, and longer tarsal tooth.

♀ (brachypterous).—Length about 1.3 mm. (fully distended, 1.7 mm.). Color golden yellow (with red internal pigmentation), prothorax slightly darkened, pterothorax much darker (especially along sides), abdomen shaded with brown along sides, along posterior margins of terga, and with a brown cloud behind antecostal lines on intermediate terga, IX dark brown along sides and posteriorly, tube dark brown but narrowly yellow across base and paler apically; legs yellow; antennae brownish yellow in segments I and II, remainder blackish brown except yellow pedicel of III. Head 170, across eyes 118, just behind eyes 111, across cheeks 133, near base 130, at basal collar 132, across head-process 75; surface obscurely reticulate in ocellar area, distinctly so across base, cheeks transversely striate, remainder nearly smooth; setae normal,

postoculars 52, expanded at tip, interval 86, distance from eyes 15; eyes 41, width about 29, interval 60; mouth-cone normal, 65. Antennal segments: I 40 (36), II 50 (30), III 57 (28), IV 50 (29), V 50 (27), VI 48 (23), VII 43 (20), VIII 43 (13), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 113, across coxae 245, pronotum with a few faint striae along posterior margin; antero-marginal setae minute, antero-angulars 48, midlaterals 43, epimerals 59, postero-marginals 62, coxals 40, all of these dilated at tip; mesothorax 228 across anterior angles; metanotal pelta broad, differentiated only by a few lines of reticulation laterad of the two major setae, metanotum otherwise smooth; fore tarsi with the usual moderately long recurved tooth on inner surface. Abdomen 330 at segment IV, nearly smooth, most setae dilated at tip; tube 120, across base 70, at tip 34, terminal setae 74; setae I and II on IX blunt or rapidly tapering at tip, 127-129.

BRAZIL: Nova Teutonia, S.C., July 1953 to October 1955, 8 ♀♀ (holotype taken in September, 1954); Erechim, Rio Grande do Sul, August 1956, 1 ♀. All specimens were collected by Fritz Plaumann from fallen leaves.

Eurythrips musivi, sp. nov.

Like the following species (*striolatus*), only, in having the head completely sculptured medially, from occipital line to median ocellus; differing from that species in that the head is polygonally reticulate (rather than striate with widely-spaced anastomosing lines) between the postocular and occipital setae, the cheeks evenly curved to eyes and toward base, the width just behind eyes only slightly (4μ) less than that in front of basal collar, the antennae more slender (segment IV nearly 2.5 times as long as wide), and seta I on abdominal segment IX dilated at tip.

♀ (macropterous).—Length about 1.6 mm. (fully distended 2.1 mm.). Color brown, darkest in head and tube, the former somewhat paler basally, the latter paler across base and in apical two-thirds; pterothorax nearly yellow dorsally; abdomen pale brownish yellow in segments I-IX, shaded along sides with gray (especially in II) and with a dark gray cloud margining the antecostal line in III-VII; legs yellow, with femora slightly darkened; fore wings brown, slightly darker marginally and in anal lobe, pale in front of latter at base, and with a more or less evident dark median streak; antennae brown, darkest in segments I and II, pedicel of III yellow. Head 203, across eyes 152, just behind eyes 136, across cheeks 156, near base 140, across basal collar 143, across head-process 85; surface polygonally reticulate throughout, save for a small patch on each side, adjoining postocular setae, these 85, dilated at tip, 112 apart, and 18 from eyes; eyes 70, width 46, interval 61; mouth-cone normal, 66. Antennal segments: I 42 (43), II 56 (34), III 70 (31), IV 67 (29), V 70 (27), VI 60 (24), VII 53 (21), VIII 50 (14); sense-cones on III and IV 1 (2), all setae pointed. Prothorax 114, across coxae 273, pronotum with a few faint striae along posterior margin, remainder smooth; antero-marginal setae 26, close together, slender, pointed, antero-angulars 88, midlaterals 90, epimerals 89, postero-marginals 98, coxals 36, these major setae all dilated at tip; mesothorax 269 across anterior angles; metanotum with somewhat elevated pelta which is polygonally reticulate throughout; fore tarsi with a small tooth on inner surface; fore wings 879. Abdomen 353 at segment IV; median

tergite of I reticulate throughout; remainder of dorsal surface nearly smooth; tube 143, across base 79, at tip 40, terminal setae 103; most setae broadened apically, I on IX 122, dilated at tip, II 137 and pointed.

BRAZIL: Nova Teutonia, S.C., May 1953 and April and May 1954, Fritz Plaumann, 4 ♀♀ (including holotype taken in May 1953), under fallen leaves.

Eurythrips striolatus, sp. nov.

For separation of this species, see description of *musivi*, above.

♀ (macropterous).—Length about 1.5 mm. (partially distended, 1.9 mm.) Color brown, usually darkest in head, first abdominal segment, and tube (the tube paler across base and in about apical half), metathorax pale and nearly yellow, intermediate abdominal segments dull brownish yellow but darkened laterally, especially in region of antecostal line, these lines on terga III-VII each with a dark blotch behind them medially; legs dull brownish yellow, darkest in coxae and femora; fore wings brown, slightly darker marginally and in anal lobe, pale in front of latter at base; antennae dull brownish gray, paler in apical part of II and base of III. Head 183, across eyes 133, just behind eyes 117, across cheeks 142, near base 132, across basal collar 135, across head-process 80; surface reticulate in and behind ocellar area, along cheeks, and broadly across base, striate and reticulate medially; postocular setae 73, dilated at tip, 108 apart, 26 from eyes; eyes 54, width 38, interval 57; mouth-cone normal, 73. Antennal segments: I 40 (40), II 53 (33), III 61 (33), IV 57 (32), V 65 (27), VI 56 (26), VII 44 (21), VIII 43 (14), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 110, across coxae 252, pronotum with a few faint striae along posterior margin, remainder smooth; antero-marginal setae 20, close together, slender, pointed, antero-angulars 75, midlaterals 69, epimerals 82, postero-marginals 91, coxals 48, these major setae all dilated at tip; mesothorax 259 across anterior angles; metanotum with somewhat elevated pelta which is polygonally reticulate throughout; fore tarsi with a small tooth on inner surface. Abdomen 361 at segment III; median tergite of I reticulate anteriorly; remainder of dorsal surface nearly smooth; tube 144, across base 70, at tip 38, terminal setae 86; most setae broadened apically, those on IX pointed, 150-152.

BRAZIL: Nova Teutonia, S.C., April 1954, Fritz Plaumann, 4 ♀♀ (including holotype), under fallen leaves.

Eurythrips xanthozonus, sp. nov.

Resembling *cinctus* in the normal size of pronotal setae, presence of one sense-cone on outer surface of third antennal segment and one on inner surface of fourth segment, and in the brown body with its pale yellowish second and third abdominal segments; but with head only 1.1 times as long as wide and segment VI of antennae nearly twice as long as wide.

♀ (macropterous).—Length about 1.6 mm. (partially distended, 2.0 mm.). Color brown or light blackish brown, head darker than prothorax, abdomen pale yellow in segment II, III yellow but darkened medially and posteriorly, IV-IX successively darker, tube blackish brown, paler in apical half; legs brownish yellow, fore coxae brown, fore femora shaded with brown in about basal half, other femora and all tibiae very lightly

shaded with brown, the tibiae basally; fore wings brown in anal lobe, light brownish yellow in about basal fourth, nearly clear beyond; antennae blackish brown throughout, with pedicel of III yellow. Head 185, across eyes 148, just behind eyes 145, across cheeks 167, near base 164, across head-process 90; surface almost perfectly smooth, with a few faint striae along cheeks; setae normal, postoculars 66, pointed, interval 130, distance from eyes 18; eyes 55, width 38, interval 72; mouth-cone normal, 90. Antennal segments: I 42 (44), II 57 (36), III 61 (37), IV 59 (37), V 62 (34), VI 60 (30), VII 56 (27), VIII 43 (18), sense-cones on III 1 (1), IV 1 (2), all setae pointed. Prothorax 134, across coxae 280, pronotum smooth, without striae along posterior margin; antero-marginal setae vestigial, antero-angulars 48, midlaterals 70, epimerals 100, postero-marginals 100, coxals 64, all of them finely pointed; mesothorax 284 across anterior angles; metanotum without differentiated pelta, smooth; fore tarsi toothed on inner surface. Abdomen 336 at segment IV, nearly smooth except for median tergite of I which is reticulated anteriorly and at sides; tube 143, across base 80, at tip 40, terminal setae 120; setae on IX finely pointed, I 199, II 207.

BRAZIL: Belém, Pará, August 2, 1951, J.D.H., 1 ♀ (holotype) from grass (some partially dead).

***Eurythrips occipitalis*, sp. nov.**

Easily distinguished by the large, knobbed, occipital setae, which are almost equal to the postoculars; by the bright yellow color of antennal segments III-VI; and by the largely yellow pterothorax and fourth to seventh abdominal segments.

♀ (brachypterous).—Length about 1.6 mm. (fully distended, 2.0 mm.). Color brown or blackish brown, pterothorax and abdominal segments IV-VII yellow, III paler than II and VIII pale at base, tube pale at base and in about apical half; legs brown except for the yellowish tarsi, trochanters, knees, and mid and hind coxae; antennae brown in segment I and base of II, yellow beyond. Head 228, across eyes 146 (142), just behind eyes 126 (123), across cheeks 168 (164), near base 150, across basal collar 151, across head-process 86; surface rugose-reticulate in ocellar area, lightly reticulate across base, cheeks with short elevated angulate lines of sculpture, remainder smooth; postocular setae 70, dilated at tip, interval 100, distance from eyes 19; occipital setae 47, similar to postoculars, interval 80, distance behind postoculars about 29; eyes 53 (53), width 41 (39), interval 65 (65). Antennal segments: I 40 (41), II 57 (32), III 95 (31), IV 86 (29), V 86 (26), VI 69 (23), VII 57 (21), VIII 50 (13); sense-cones on III and IV 1 (2); all setae pointed. Prothorax 147, across coxae 330; pronotum with a few faint striae along posterior margin, remainder smooth; antero-marginal setae minute, antero-angulars 86, midlaterals 72, epimerals 72, postero-marginals 75, coxals 31, all of these nearly straight and dilated at tip; mesothorax 272 across anterior angles; metanotum with pelta reticulate throughout; fore tarsi with a minute tooth on inner surface. Abdomen 395 at segment III; median tergite of I somewhat narrowed anteriorly, lightly reticulate; remainder of dorsal surface nearly smooth; tube 139, across base 80, at tip 40, sides straight, terminal setae 107; most setae dilated apically, I on IX 130 and slightly dilated, II 143 and dull.

BRAZIL: Nova Teutonia, S.C., July 1955 (1 ♀) and August 1955 (1 ♀, holotype), Fritz Plaumann, under fallen leaves.

Eurythrips cruralis, sp. nov.

Very different from the other species of the genus which have the normal complement of pronotal setae, two sense-cones on outer surface of antennal segment III, and yellow head, by the yellow femora and brown tibiae, yellow first antennal segment, yellow basal third of otherwise brown tube, and the smooth metanotum without differentiated pelta.

♀ (brachypterous).—Length about 1.7 mm. (fully distended, 2.1 mm.). Color golden yellow, prothorax shaded with brown, pterothorax darkened along sides and in front, abdomen somewhat shaded laterally, tube bright yellow in about basal third but shading to brown in remainder; femora about concolorous with body though slightly shaded, tibiae brown or blackish but narrowly yellow at base, tarsi yellow; antennae bright yellow in segment I, yellowish brown in II, remainder dark blackish brown excepting only the yellow pedicel of III. Head 214, across eyes 152, just behind eyes 133, across cheeks 161, near base 157, at basal collar 160, across head-process 90; surface somewhat reticulate in ocellar area, lightly reticulate across base, cheeks transversely striate, remainder smooth; setae normal, postoculars 56, dilated at tip, interval 91, distance from eyes 14; eyes 53, width 40, interval 72; mouth-cone normal, 119. Antennal segments: I 43 (42), II 56 (37), III 73 (34), IV 64 (32), V 67 (30), VI 60 (28), VII 50 (26), VIII 48 (16), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 168 (154), across coxae 336 (301), pronotum with a few faint striae along posterior margin; antero-marginal setae minute, antero-angulars 67, midlaterals 73, epimerals 92, postero-marginals 82, coxals 44, all of these dilated at tip; mesothorax 281 (260) across anterior angles; metanotum smooth, without differentiated pelta; fore tarsi with the usual recurved tooth on inner surface. Abdomen 447 (384) at segment III or IV, nearly smooth, most setae dilated; tube 140, across base 87, at tip 45; terminal setae 111; setae I and II on IX 153-156, both pointed.

BRAZIL: Nova Teutonia, S.C., August 1952 (holotype) and August 1955, Fritz Plaumann, 2 ♀ ♀ from fallen leaves.

Eurythrips elongatus, sp. nov.

The long head (nearly 1.9 times the width across eyes) and the yellow third to fifth antennal segments distinguish this species from all others.

♀ (brachypterous).—Length about 1.6 mm. (fully distended, 2.1 mm.). Color yellow, head brownish and darker than prothorax, sides of pterothorax and junction of mesonotum and metanotum darkened, abdomen darker apically and becoming brown or nearly so in last two or three segments, tube brown but narrowly pale across base and again pale in more than apical one-half; legs yellow; wing-pads brown; antennae brown in segments I and II, the latter nearly yellow medially in apical half, III-V yellow, VI-VIII successively darker, VI yellow in pedicel, yellowish beyond. Head 241, across eyes 129, just behind eyes 109, across cheeks 150, near base 137, at basal collar 142, across head-process 88; surface reticulate in ocellar area and more lightly so across base, cheeks transversely striate, remainder smooth; setae normal, postoculars 60, slightly dilated at tip, interval 82, distance from eyes 26; eyes 46, width

about 31, interval about 67; mouth-cone normal, 105. Antennal segments: I 48 (47), II 57 (34), III 77 (33), IV 73 (31), V 71 (28), VI 62 (27), VII 46 (24), VIII 44 (16), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 140, across coxae 298, pronotum with a few faint striae along posterior margin; antero-marginal setae minute, antero-angulars 52, midlaterals 72, epimerals 70, postero-marginals 80, coxals 33, all of these slightly dilated at tip; mesothorax 252 across anterior angles; metanotal pelta only partially differentiated by a few reticles laterad and caudad of the two major setae, metanotum otherwise smooth; fore tarsi with a very small tooth on inner surface. Abdomen 333 at segment IV, nearly smooth excepting for the polygonally reticulate median tergite of segment I, most setae dilated; tube 133, across base 81, at tip 42, terminal setae 94; seta I on IX 158, II 148, both finely pointed.

♂ (brachypterous).—Like ♀ in color and structure; sternum VIII without glandular area, but with about 22 setae across middle.

BRAZIL: Nova Teutonia, S.C., July 1953 (1 ♀, holotype) and February 1954 (1 ♀ and 1 ♂, the latter the allotype), Fritz Plaumann, under fallen leaves.

Eurythrips nigriceps, sp. nov.

Resembling *citricollis* in having a dark brown head which contrasts strongly with a yellow prothorax, but differing from that species in that the major setae of the head and body are slightly dilated apically, cheeks rather heavily sculptured and distinctly roughened as seen under low magnification, metanotum smooth medially but with a few striae external to the two major setae, and the median tergite of segment I of abdomen broad, with its anterior portion broader than long.

♀ (brachypterous).—Length about 1.2 mm. (fully distended, 1.6 mm.). Color dull yellow, with dark brown head (yellowish in ocellar area and across base) and brown tube (yellowish across base and in about apical one-half), lightly shaded along sides of pterothorax and across metathorax, as well as in about posterior third of abdominal terga II-VIII, tergum IX largely brown; legs yellow; antennae yellowish brown in first two segments, uniform blackish brown beyond excepting yellow extreme base of III. Head 178, across eyes 116, just behind eyes 108, across cheeks 136, near base 118, at basal collar 120, across head-process 73; surface roughly reticulate in ocellar area, lightly reticulate across base, smooth medially, the cheeks coarsely transverse sculptured; setae normal, postoculars 52, dilated at tip, interval 93, distance from eyes 14; eyes 34, width 33, interval 50; mouth-cone normal, 64. Antennal segments: I 36 (37), II 47 (31), III 47 (32), IV 46 (29), V 47 (26), VI 46 (25), VII 38 (22), VIII 37 (15), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 112, across coxae 238, pronotum with a few striae along posterior margin; antero-marginal setae minute, antero-angulars 50, midlaterals 55, epimerals 63, postero-marginals 66, coxals 33, all of these dilated at tip; mesothorax 213 across anterior angles; metanotum without differentiated pelta, nearly smooth; fore tarsi with the usual recurved tooth on inner surface. Abdomen 253 at segment III, nearly smooth, most setae dilated; tube 110, across base 69, at tip 33, terminal setae 75; seta I on IX 118, II 127, both pointed.

BRAZIL: Nova Teutonia, S.C., August 1955, Fritz Plaumann, 1 ♀ (holotype) from fallen leaves.

Eurythrips hemimeres, sp. nov.

Readily known from the other species of the genus which have the normal complement of pronotal setae, two sense-cones on outer surface of antennal segment III, yellow head, prothorax, and legs, lightly polygonally reticulate pelta of metanotum, dark brown tube, and brown basal antennal segments, by the dark brown second abdominal segment (which is much darker than metathorax or abdominal segment III), tooth at anterior end of cheeks not fully attaining eyes, tergum II of abdomen not reticulate medially at base, and glandular area of ♂ occupying most of sternum VIII.

♀, *forma macroptera*.—Length about 1.5 mm. (fully distended, 1.9 mm.). Color golden yellow, with second abdominal segment dark brown, tube dark brown but narrowly paler across base and in apical half or more; shaded lightly with brown in fore coxae, in basal half of fore femora, along sides of mesothorax, at sides of metanotal sclerite, and at sides of abdominal segments, especially III, VIII, and IX; terga III-VI of abdomen with a narrow median dark dash just behind antecostal line; antennae with segments I-III yellowish brown, paler than the blackish brown IV-VIII, pedicel of III yellow, its tip shaded; fore wings brown, with a median dark streak and dark edges, pale at extreme base except for the dark anal lobe. Head 214 long, 138 across eyes, 117 just behind eyes, 145 across cheeks, 132 near base, 135 across collar, 80 across head-process; surface roughly reticulate in ocellar area and along cheeks, lightly reticulate across base, remainder smooth; setae normal, postoculars 46, slightly dilated, interval 84, distance from eyes 18; eyes 54, width 39, interval 60; mouth-cone normal, 64. Antennal segments: I 43 (40), II 54 (33), III 69 (29), IV 60 (29), V 61 (27), VI 55 (25), VII 45 (22), VIII 45 (14), sense-cones on III and IV 1 (2), all setae pointed. Prothorax 137, 266 across coxae, pronotum with a few striae along posterior margin; antero-marginal setae minute, antero-angulars 46, midlaterals 42, epimerals 59, postero-marginals 57, coxals 36, all of these dilated at tip; mesothorax 263 across anterior angles; metanotal pelta rounded at sides and posteriorly, polygonally reticulate; fore wings normal, 693; fore tarsi with the usual recurved tooth on inner surface. Abdomen 318 at segment IV, nearly smooth, most setae dilated; tube 133, across base 77, at tip 35, terminal setae 98; setae I and II on IX 100-106, both slightly dilated apically.

♀, *forma brachyptera*.—Color and structure essentially as in long-winged form.

♂ (brachypterous).—Color as in ♀; prothorax and fore legs heavier; glandular area occupying most of sternum VIII.

BRAZIL: Nova Teutonia, S. C., August 1952 to October 1955, Fritz Plaumann, 117 ♀♀ and 38 ♂♂; holotype (macropterous ♀), morphotype (brachypterous ♀), and allotype (♂) taken in April 1954; all from fallen leaves.

Chthonothrips, gen. nov.

(*chthon*, earth; *thrips*—in allusion to the habitat)

Allied to *Eurythrips* Hinds, but differing in the more massive and more heavily sclerotized body and appendages, the presence of pores on the antecostal lines and of a pair of large pores on most terga near middle, and the presence of a strong tooth near middle of fore tarsi in both

sexes. Head incised behind the small and coarsely-faceted eyes, surface almost perfectly smooth; mouth-cone large and heavy, not narrowed at base, semicircularly rounded at tip. Antennae heavily sclerotized, 8-segmented, last segment narrowed at base, all setae pointed, sense-cones not long, one on either side of segments III-VI. Pronotum smooth, not fused with epimera, anteromarginal setae minute, others moderate and dilated at tip; meso- and metanota smooth; legs short and stout, fore tarsi strongly toothed near base. Abdomen not broader than thorax; tube nearly equal in length to head, almost smooth, slightly narrowed at tip, sides thickened.

Type species: *Chthonothrips nigrocinctus*, sp. nov.

Chthonothrips nigrocinctus, sp. nov.

♀ (apterous).—Length about 2.2 mm. (fully distended, 2.7 mm.). Color of body and appendages golden yellow, with abdominal segment II brown and mesothorax shaded with brown; tube brownish orange, pale at base and apex. Head 301 μ long, 178 across eyes, just behind eyes 161, across cheeks 195, near base 181, across basal collar 183, across head-process 118, this last 16-17 long at sides; surface with a few very indistinct reticles at sides of base, otherwise smooth; postocular setae slightly dilated apically, 77 long, 147 apart, 33 from eyes, other cephalic setae minute; eyes with about 5 lateral facets; mouth-cone 113. Antennal segments: I 62 (57), II 73 (45), III 81 (46), IV 61 (44), V 66 (41), VI 63 (38), VII 62 (31), VIII 63 (22); sense-cones on III-VI 1 (1). Prothorax about 200 long, 399 across coxae, smooth; antero-angular setae 33, midlaterals 54, epimerals 71, postero-marginals 69, coxals 51, all slightly dilated at tip; mesothorax 336 across anterior angles; metanotum slightly roughened in anterior angles. Abdomen 391 at segments IV-V; median tergite of segment I subtriangular, smooth; II faintly reticulate on either side of median line, other terga nearly smooth; tube 266, across basal collar 114, at apex 42, sides straight except for a slight apical narrowing; terminal setae 196; seta I on IX 280, II 252, both pointed.

Chortothrips, gen. nov.

(*chortos*, grass; *thrips*—in allusion to the habitat)

Allied to *Furythrips* Hinds, but differing in the more massive and more heavily sclerotized body and appendages, the presence of pores on the antecostal lines and of a pair of large pores on most terga near middle,

♂ (apterous).—Very similar to female in all respects; fore legs often swollen and with tarsal tooth stronger; glandular area on sternum VIII occupying about middle half, its ends emarginate.

BRAZIL: Nova Teutonia, S.C., Fritz Plaumann, November, 1954, and July, August, September, and October, 1955, 14 ♀♀ (holotype taken in September) and 9 ♂♂ (allotype taken in August), from fallen leaves. a tooth near base of fore tarsi in both sexes, the union of the last two antennal segments into a single unit, the short heavily thickened tube, and the presence of well-developed antero-marginal pronotal setae. Head long, incised behind the small and coarsely-faceted eyes, surface partially and lightly striate; mouth-cone large and heavy, not narrowed at base, rounded at tip. Antennae heavily sclerotized, 8-segmented but with the last two segments compactly united, all setae pointed, sense-cones not long.

Pronotum smooth, not fused with epimera, antero-marginal setae as large as anteroangulars, all dilated at tip; legs short and stout. Tube shorter than head, lightly reticulate, strongly narrowed to tip, sides much thickened.

Type species: *Eurythrips valens* Hood.

Plemmelothrips, gen. nov.

(*plemmeles*, discordant, dissonant; *thrips*—in allusion to the lack of large antero-angular pronotal setae)

Allied to *Terthrothrips*, but with the antennae stouter, pronotum not thickened along anterior margin and its anterior angles not prominent or produced, its antero-angular setae reduced, head short, broad, and somewhat flattened, with eyes less protruding and farther apart, and ocelli larger, tergite I of first abdominal segment triangular. Body moderately stout, not reticulated. Head notched behind eyes, moderately flattened, with long postocular setae; eyes protruding, more than one-half as long as cheeks, much narrower than their interval; ocelli large, the posterior pair behind middle of eyes, ocellar area not elevated; mouth-cone normal to group; antennae 8-segmented, moderately stout, last segment pedicellate; sense-cones normal, segment III 1 (2), IV 2 (2); all setae pointed. Prothorax with convex lateral margins, notum fused with epimeron; antero-marginal setae vestigial, antero-angulars reduced, others long and truncate at tip; pelta of metathorax weakly differentiated; fore wings nearly straight, without accessory setae, subbasal setae long; legs with numerous small setae, fore tarsi armed. Abdomen moderately heavy, nearly free of sculpture, setae long; median tergite of segment I broadly triangular; tube long, heavy, not sculptured, not thickened.

Type species: *Plemmelothrips defectus*, sp. nov.

Plemmelothrips defectus, sp. nov.

♀, *forma macroptera*.—Length about 1.7 mm. (nearly fully distended, 2.1 mm.). Color nearly uniform chestnut brown, with pale brown fore wings and pale dull-yellow legs, femora lightly shaded with brown; antennae with segments I and II about concolorous with head and darker than the following ones, III and IV pale to first whorl of setae, their apical portions and V-VIII dark brownish gray. Head 213, across eyes 169, just behind eyes 154, across cheeks 169, near base 151, across basal collar 158, across head-process 93, its surface with close anastomosing cross-lines at base medially, cheeks with raised lines of sculpture and thus serrate; postocular setae 67, somewhat curved, slightly dilated at tip, interval 116, distance from eyes 16; eyes 74, width 47, interval 77; mouth-cone 90. Antennal segments: I 47 (45), II 58 (32), III 83 (32), IV 86 (32), V 85 (27), VI 72 (24), VII 57 (22), VIII 68 (16). Prothorax 163, across coxae 293, pronotum smooth except for a few faint striae posteriorly; antero-marginal and antero-angular setae 16-35, slender and pointed, the others much stronger and diagonally truncate at tip, midlaterals 67-84, epimerals 89-94, postero-marginals 100, coxals about 39; mesothorax 295 across anterior angles; metanotal pelta not sharply delimited, lightly reticulate laterally and posteriorly; fore tarsi with a small recurved tooth on inner surface; fore wings 868. Abdomen 385 at segment III, median tergite of I smooth, most of following terga faintly subreticulate at sides and faintly cross-striate immediately behind antecostal line; tube 199, across base 85, at tip 43, sides straight, surface

smooth, terminal setae 110; other setae long, mostly somewhat dilated at tip, I on IX 203 and blunt, II 224 and pointed.

♀ *forma brachyptera*.—Like long-winged form in color and structure, but with smaller eyes (54 long, 32 wide, 86 apart).

♂ (brachypterous).—Like ♀ in color and structure; glandular area on sternum VIII of abdomen occupying about middle one-half of the length of segment and most of its width, emarginate laterally.

BRAZIL: Nova Teutonia, S.C., May 1953 to October 1955, Fritz Plaumann, 4 macropterous ♀♀ (including holotype taken in February 1954), 15 brachypterous ♀♀ (including morphotype taken in October 1955), and 1 ♂ (allotype, taken with morphotype), under fallen leaves.

Terthrothrips bucculentus, sp. nov.

Readily known by the yellow second abdominal segment, the stout and almost wholly brown antennae, and the very convex cheeks.

♀ *forma macroptera*.—Length about 1.3 mm. (fully distended, 1.74 mm.). Color brown (not blackish brown), darkest in pterothorax and along sides and front of head, the second abdominal segment pale yellow; abdomen darkened in about fourth and fifth segments (especially laterally) and becoming more yellowish in seventh and eighth, segments III-VIII with a small median gray spot on antecostal line, the tube brown but paler basally and in about apical half; legs yellow, little shaded with brown; fore wings brown, with a darker median streak; antennae blackish brown in most of segments I and II, brown beyond but paler and more grayish in about last three segments, III yellowish to near first whorl of setae, IV and V paler just beyond an indistinct dark basal ring. Head 195, across eyes 140, just behind eyes 117, across cheeks 143, near base 120, across basal collar 126, across head-process 73, the cheeks, roundly convex and curving nearly evenly to eyes and toward base; surface reticulate across base, with elevated cross-lines along cheeks (the latter thus distinctly serrate), reticulate in ocellar area, and with short cross-lines in median area from ocelli to basal reticulation, finely reticulostriate ventrally and without pustules; postocular setae 58, straight, roundly dilated at tip, interval 88, distance from eyes 17; eyes about 61, 42 wide 57 apart. Antennal segments: I 42 (36), II 53 (29), III 74 (27), IV 65 (25), V 59 (24), VI 51 (23), VII 43 (20), VIII 46 (13); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 99, across coxae 225; pronotum smooth except for a few faint striae along posterior margin; anterior margin and fore angles thickened; antero-marginal setae vestigial, antero-angulars 50, midlaterals 60, epimerals 67, postero-marginals 71, coxals 45, all of these last with tips dilated and divided; mesothorax 227 across anterior angles; pelta of metathorax well differentiated, reticulate, prolonged posteriorly by a line of reticles; fore tibiae serrate along inner surface, fore tarsi with the usual recurved tooth; fore wings 651. Abdomen 294 at segment IV; median tergite of I capstan-shaped, reticulate; most of following terga with faintly mucronate cross striae at sides; tube 118, across base 66, at tip 33, sides straight, surface smooth, terminal setae 67; other setae long, mostly dilated at tip, I and II on IX 100-104, both of these knobbed.

♀, *forma microptera*.—Like long-winged form in all respects.

♀, *forma brachyptera*.—Like long-winged form in all respects, eyes not smaller.

♂ (brachypterous).—Like female in color and structure; fore legs enlarged in heterogonic major forms; glandular area on sternum VIII occupying most of surface.

BRAZIL: Nova Teutonia, S.C., May 1953 to October 1955, Fritz Plaumann, 114 ♀♀ (including holotype, morphotype of micropterous form, and morphotype of brachypterous form taken in April 1954) and 24 ♂♂ (including allotype taken with holotype and morphotypes), under fallen leaves.

Terthrothrips peltatus, sp. nov.

Readily known by the uniform dark blackish brown head, thorax, and abdomen, yellow legs, and the reticulate metanotal pelta, which lacks a posterior prolongation.

♀, *forma macroptera*.—Length about 1.9 mm. (fully distended, 2.5 mm.). Color uniform dark blackish brown, with yellow legs; fore wings light brown, paler at base in front of anal lobe, darker marginally and with a still darker post-median streak at middle; antennae with segments I and II concolorous with head, III golden yellow, IV-VI with a dark basal ring and paler just beyond, remainder of antennae brown, more yellowish in IV, especially at its apex. Head 270, across eyes 168, just behind eyes 137, across cheeks 168, near base 149, across basal collar 156, across head-process 95, cheeks evenly convex except for a more or less evident tooth behind eyes; surface with a few large reticles medially in front of occipital line, with elevated interrupted cross-lines or rugae along cheeks (the latter thus distinctly serrate), pustulate along sides ventrally, ocellar area with a few indistinct rugae; postocular setae 83, straight, dilated apically, interval 99, distance from eyes 25; eyes about 78, width 46, interval 76. Antennal segments: I 55 (47), II 69 (34), III 113 (31), IV 114 (30), V 114 (29), VI 83 (27), VII 69 (21), VIII 69 (14); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 160, across coxae 301; pronotum smooth except for a few striae along posterior margin and a few slight wrinkles near anterior angles; fore margin thickened; antero-marginal setae vestigial, antero-angulars 79, midlaterals 100, epimerals 101, postero-marginals 120, coxals 72, all of these last with tips dilated; mesothorax 307 across anterior angles; pelta of metathorax well differentiated, reticulate, not prolonged posteriorly; fore tibiae serrate along inner surface, fore tarsi with strong recurved tooth; fore wings 864. Abdomen 416 at segment IV; median tergite of I capstan-shaped, with a few indistinct reticles; most of following terga with faintly mucronate cross-striae at sides; tube 154, across base 87, at tip 45, sides slightly concave near base, otherwise straight, surface smooth, terminal setae 106; other setae long, mostly dilated at tip, I on IX 136, II 153, both dilated apically.

♀, *forma microptera*.—Not significantly different from long-winged form.

♀, *forma brachyptera*.—Not significantly different from long-winged form.

♂ (brachypterous).—Like ♀ in color and structure; pronotum and fore legs enlarged in heterogonic major forms; glandular area on sternum VIII occupying most of surface.

BRAZIL: Nova Teutonia, S. C., February 1953 to September 1955, Fritz Plaumann, 80 ♀♀ (including holotype, morphotype of micropterous

form, and morphotype of brachypterous form taken in October 1954) and 16 ♂♂ (including allotype taken with holotype and morphotypes), under fallen leaves.

***Terthrothrips viduus*, sp. nov.**

Like *carens* and *bicinctus*, only, in having small antero-angular pronotal setae; but unlike former in having tube largely yellow (instead of blackish brown) and metathoracic pelta not sculptured between the two major setae; unlike latter species in lacking the two bright yellow bands across body.

♀ (macropterous).—Length about 1.3 mm. (fully distended, 1.7 mm.). Color brown, head darkest and blackish brown; abdominal segments II, III, basal half of IV, and all of VI-VIII darkened; tube yellow or yellowish, tipped with gray, sometimes lightly shaded; metathorax yellowish posteriorly; legs yellow, femora shaded with brown; fore wings light brown, paler basally, darkened marginally, medially, and in anal lobe; antennae gray-brown, segments I and II darkest (II black in pedicel), III pale yellowish in pedicel, IV-VI pale just beyond an ill-defined narrow basal dark ring. Head 172, across eyes 132, just behind eyes 116, across cheeks 133, near base 128, across basal collar 130, across head-process 72; dorsal surface lightly reticulate across base and along sides, nearly smooth in ocellar area and medially, cheeks not conspicuously serrate; postocular setae 65, straight, dilated at tip, interval 98, distance from eyes 12; eyes 62, protruding, width 41, interval 53. Antennal segments: I 35 (37), II 50 (28), III 63 (26), IV 72 (28), V 76 (24), VI 60 (21), VII 43 (18), VIII 47 (12); sense-cones on III 1 (2), IV 2 (2); all setae pointed. Prothorax 102, across coxae 235; pronotum smooth, without the usual faint striae along posterior margin; fore margin and anterior angles slightly strengthened, the latter not prominent; antero-marginal and antero-angular setae vestigial (about 7), midlaterals 80, epimerals 89, postero-marginals 101, coxals 54, all of these last nearly straight and with dilated tips; mesothorax 238 across anterior angles; metathoracic pelta well differentiated, not prolonged, reticulate at sides and posteriorly, smooth between the two major setae; legs normal, fore tibiae serrate along inner surface, fore tarsi with usual long recurved tooth; fore wings 633. Abdomen 281 at segment III; median tergite of I capstan-shaped, with a few obsolete reticles; most of following terga nearly smooth, but with a few short mucronate cross-lines at sides; tube 116, across base 58, at tip 33, sides slightly rounded or angulate at basal pores, straight beyond, surface in basal two-thirds with scale-like pattern of fine lines, terminal setae 72; other setae long, mostly knobbed, I on IX 112 and knobbed, II 142 and dull.

♂ (macropterous).—Like female in color and general structure; abdominal segment VIII somewhat paler than those adjoining, its glandular area occupying most of sternum.

BRAZIL: Nova Teutonia, S.C., April, August, and September, 1954, Fritz Plaumann, 9 ♀♀ (including holotype taken in September) and 1 ♂ (allotype, taken in August), under fallen leaves.

***Terthrothrips carens*, sp. nov.**

For separation from other species, see description of *viduus*, above.

♀ (macropterous).—Length about 1.3 mm. (fully distended, 1.8 mm.). Color chestnut brown, darker in pterothorax, yellowish in head except

along sides; legs yellow; fore wings light brown, paler basally, darker marginally, medially, and in anal lobe; antennae largely blackish brown in segments I and II, dark gray beyond, III-VI pale to first whorl of setae except for an indistinct narrow dark ring at base of IV-VI. Head 193, across eyes 144; just behind eyes 125, across cheeks 143, near base 129, across basal collar 131, across head-process 75; dorsal surface lightly reticulate across base and along sides, smooth in ocellar area and medially, cheeks not conspicuously serrate; postocular setae 69, straight, dilated at tip, interval 102, distance from eyes 16; eyes 67, rather strongly protruding, width 42, interval 61. Antennal segments: I 39 (37), II 53 (29), III 76 (25), IV 74 (26), V 77 (23), VI 63 (21), VII 43 (19), VIII 53 (13); sense-cones on III 1 (2), IV 2 (2); all setae pointed. Prothorax 122, across coxae 248; pronotum smooth, with a few faint striae along posterior margin; fore margin not strengthened, anterior angles with a slight notch marking off a small lobe at a lower level, this lobe bearing the antero-angular setae; antero-marginal setae vestigial (about 20), antero-angulals 20-32, both slender and pointed; midlaterals 79, epimerals 82, postero-marginals 89, coxals 46, all nearly straight and with dilated tips; mesothorax 218 across anterior angles; metathoracic pelta well differentiated, with a short overhanging loop at sides, not prolonged posteriorly, lightly reticulate between the major setae, clearly reticulate posteriorly; legs normal, fore tibiae strongly serrate along inner surface, fore tarsi with the usual recurved tooth; fore wings 633. Abdomen 290 at segment III; median tergite of I capstan-shaped, distinctly reticulate; most of the following terga nearly smooth, but with a few mucronate lines at sides; tube 123, across base 64, at tip 33, sides straight, surface smooth, terminal setae 58; other setae long, mostly knobbed, I on IZ 123 and knobbed, II 127 and pointed.

♂ (macropterous).—Like female in color and general structure; prothorax and fore legs often enlarged; abdominal segment VIII generally somewhat paler than those adjoining, its glandular area occupying most of sternum.

BRAZIL: Nova Teutonia, S. C., February and April 1954, 2 ♀♀ (including holotype taken in April) and 4 ♂♂ (including allotype taken with holotype); Erechim, Rio Grande do Sul, August 1956, 1 ♀ and 2 ♂♂. All specimens were taken by Mr. Fritz Plaumann, under fallen leaves.

Terthrothrips brunneus, sp. nov.

Closely related to *fuscatus*, but larger, with elevated portion of metanotal pelta semicircular, anterior angles of pronotum scarcely produced, and antennal segments IV and V without a pale subbasal ring.

♀ (macropterous).—Length about 1.9 mm. (fully distended, 2.3 mm.). Color nearly uniform chestnut brown, tube paler across base and in apical half or more; legs yellowish brown, with ends of femora and of middle and hind tibiae paler, tarsi yellow, fore tibiae yellowish only at base; fore wings light brown, slightly darkened marginally beyond middle and with a median dark streak in apical two-thirds, nearly colorless for a short distance near posterior margin beyond anal lobe, this last not darkened; antennae blackish brown in segments I and II, yellowish brown beyond, was basal seventh of III yellow and somewhat darkly shaded from thence to first whorl of setae, pedicels of IV and V pale. Head 263, across eyes 156, just behind eyes 126, across cheeks 159, near base 148, across

basal collar 155, across head-process 93, cheeks roundly convex, without tooth behind eyes, strongly serrate; surface cross-striate just in front of occipital line, with elevated interrupted cross-lines or rugae along cheeks, with a few pustules along sides ventrally, ocellar area and median line of dorsum with a few rugae; postocular setae 70, nearly straight, dilated apically, interval 94, distance from eyes 13; eyes about 74. Antennal segments: I 51 (47), II 63 (31), III 101 (29), IV 96 (27), V 91 (25), VI 76 (23), VII 57 (20), VIII 57 (13); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 171, across coxae 315; pronotum smooth except for a few striae along posterior margin; fore margin and anterior angles thickened; antero-marginal setae vestigial, anteroangulars 75, midlaterals 76, epimerals 85, postero-marginals 77, coxals 60, all of the major setae with tips dilated; mesothorax 287 across anterior angles; pelta of metathorax well differentiated, reticulate, prolonged posteriorly nearly to margin of sclerite, its elevated portion semi-circular and with sides overhanging; fore tibiae strongly serrate along inner surface, fore tarsi with a strong recurved tooth; fore wings 731. Abdomen 413 at segment III; median tergite of I narrowed anteriorly, scarcely capstan-shaped, surface largely lightly reticulate; most of following terga with faintly mucronate cross-striae at sides; tube 160, across base 80, at tip 39, sides slightly concave near base, otherwise straight, surface smooth, terminal setae 94; other setae long, mostly dilated at tip, I and II on IX 145, dilated apically.

BRAZIL: Nova Teutonia, S.C., April 1954, Fritz Plaumann, 5 ♀ ♀ (including holotype), under fallen leaves.

Terthrothrips bullifer, sp. nov.

A large species, with long head, nearly straight cheeks, and bent fore femora, unique in having a nearly spherical, bubble-like pustule near base of inner surface of fore femora.

♀ (macropterous).—Length about 2.2 mm. (fully distended, 2.7 mm.). Color yellowish brown, somewhat darker in head and along sides of pterothorax, abdomen clouded with brown along sides of most terga, along antecostal line, and posteriorly; tube blackish brown at middle, pale across base and in about apical third; legs dull yellow; fore wings light brown, darker marginally and medially; antennae blackish brown in most of segments I and II, III-VIII brown, with about basal tenth of III yellow and yellowish also in pedicels of IV and V. Head 311, across eyes 185, just behind eyes 146, across cheeks 174, near base 160, across basal collar 167, across head-process 103, cheeks nearly parallel (only slightly convex), nearly semicircularly in-cut to eyes from a sharp tooth, strongly serrate; surface smooth from median ocellus to a few faint striae in front of occipital line, with short elevated rugae and prominent though small tubercles along cheeks, this sculpture continued for a short distance onto ventral surface; postocular setae 81, straight, dilated at tip, interval 99, distance from eyes 25; eyes 90, protruding and very prominent, width 54, interval 81. Antennal segments: I 56 (50), II 70 (34), III 123 (33), IV 119 (30), V 114 (26), VI 83 (23), VII 72 (22), VIII 66 (13); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax long (223), across coxae 370; pronotum almost perfectly smooth; fore margin and anterior angles thickened; antero-marginal setae vestigial, anteroangulars 75, midlaterals 95, epimerals 110, postero-marginals 107, coxals

70, all of these last straight and with dilated tips; mesothorax 336 across anterior angles; pelta of metathorax well differentiated, reticulate, not prolonged posteriorly, its elevated portion with sides curved and overhanging; fore femora strongly bent at base, with a prominent rounded tubercle on inner surface close to trochanter, just basal to the bend; fore tibiae curved, serrate along inner surface; fore tarsi with a strong recurved tooth; fore wings 1010. Abdomen 427 at segment IV; median tergite of I narrowed anteriorly but not capstan-shaped, surface lightly reticulate around edges; most of following terga with a few faint striae at sides; tube 182, across base 84, at tip 44, sides slightly concave near base, otherwise straight, surface smooth, terminal setae 112; other setae long, mostly dilated at tip, I on IX 150 and dilated at tip, II 157 and nearly pointed.

♂ *forma macroptera*.—Like female in color and general structure; glandular area on sternum VIII of abdomen occupying most of segment.

♂, *forma brachyptera*.—Like long-winged male, except in the somewhat smaller eyes and the short-wing-pads which extend about half way to abdomen.

BRAZIL: Nova Teutonia, S. C., November 1952 (1 ♂, brachypterous, morphotype), February 1953 (1 ♀), May 1953 (1 ♀ and 1 ♂, both macropterous; holotype and allotype, respectively), and November 1954 (1 ♂), all taken by Mr. Fritz Plaumann, under fallen leaves.

Terthrotrips irretitus, sp. nov.

Recognizable at once by the yellow antennae, completely reticulated head, and large size.

♀ (macropterous).—Length about 1.8 mm. (fully distended, 2.4 mm.). Color pale yellowish brown, with abdominal segment II yellow; pterothorax darkest, front and sides of head shaded, abdominal segments III-V or VI darkened, tube blackish brown but pale across base and in about apical third; legs yellow, with femora shaded with brown except at ends; fore wings nearly uniform brown, slightly darker marginally and basally; antennae dark brown in most of segments I and II, lemon yellow in remaining segments or very lightly shaded with gray. Head 258, across eyes 162, just behind eyes 126, across cheeks 165, near base 151, across basal collar 157, across head-process 90, cheeks evenly convex, strongly serrate; surface polygonally reticulate throughout, the sculpture elevated along cheeks to form rugae and tubercles which are not continued onto ventral surface; postocular setae 77, straight, dilated at tip, interval 104, distance from eyes 26; eyes 73, protruding and very prominent, width 48, interval 67. Antennal segments: I 50 (45), II 63 (37), III 97 (33), IV 103 (33), V 103 (27), VI 86 (25), VII 66 (20), VIII 63 (13); sensecones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 133, across coxae 308; pronotum smooth except for the usual faint striae along posterior margin; fore margin not strengthened at middle, but with anterior angles thickened and forming a broad tooth; antero-marginal setae vestigial, antero-angulars 74, midlaterals 84, epimerals 72, postero-marginals 102, coxals 32, all of these last straight and with dilated tips; mesothorax 297 across anterior angles; pelta of metathorax well differentiated, nearly rectangular, narrowly prolonged posteriorly, reticulate; legs normal, fore tarsi with a small tooth on inner surface, fore tibiae

weakly serrate along inner surface; fore wings 843. Abdomen 377 at segment IV; median tergite of I capstan-shaped, lightly reticulate over most of surface; most of following terga with a few faint mucronate striae and reticles at sides; sternum VIII without the usual pair of small setae on posterior margin between the stout submedian pair; tube 178, across base 85, at tip 46, sides straight, surface smooth, terminal setae 97; other setae long, nearly all of them dilated at tip, I and II on IX both dilated, 161-170.

♂ (brachypterous).—Like female in color and general structure; fore legs enlarged, tarsal tooth long and strong; anterior angles of pronotum with a large and prominent tooth-like prolongation; wing-pads extending onto segment III of abdomen; glandular area on sternum VIII occupying most of the segment.

BRAZIL: Nova Teutonia, S. C., May 1953 to November 1954, Fritz Plaumann, 5 ♀♀ (including holotype taken in May 1953) and 1 ♂ (allotype, April 1954), under fallen leaves.

Terthrothrips luteolus, sp. nov.

The yellow antennae, yellow body with second abdominal segment abruptly blackish brown, rounded cheeks, and short coxal seta, should separate this species readily.

♀ (macropterous).—Length about 2 mm. (fully distended, 2.6 mm.). Color yellow, with abdominal segment II blackish brown, IX heavily shaded at sides; tube pale at base and in apical two-thirds, dark brown between; head darker than prothorax, heavily brown in ocellar area; fore coxae and all femora shaded with brown; fore wings light brown, somewhat darkened beyond base, marginally, and medially; antennae yellow, paler in apical segments, slightly darkened in I and II. Head 283, across eyes 172, just behind eyes 136, across cheeks 178, near base 149, across basal collar 157, across head-process 99; cheeks strongly and evenly convex, serrate; surface reticulate with dark lines in ocellar area, smooth at middle, lightly reticulate across base, sculpture of cheeks elevated to form rugae which are not continued onto ventral surface; postocular setae 86, straight, dilated at tip, interval 108, distance from eyes 30; eyes 84, protruding and prominent, width 50, interval 71. Antennal segments: I 52 (50), II 63 (39), III 110 (33), IV 113 (30), V 110 (28), VI 83 (25), VII 68 (23), VIII 69 (15); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 150, across coxae 343; pronotum smooth except for the usual faint striae along posterior margin; fore margin and anterior angles strengthened; antero-marginal setae vestigial, antero-angulals 70, midlaterals 91, epimerals 84, postero-marginals 106, all of these last straight and with dilated tips, coxals very small (20) and dully pointed; mesothorax 342 across anterior angles; pelta of metathorax well developed, not overhanging laterally or posteriorly, pointed but not prolonged, reticulate throughout; legs normal, fore tibiae serrate along inner surface, fore tarsal tooth minute; fore wings 973. Abdomen 444 at segment III; median tergite of I narrowed in anterior portion but not capstan-shaped, its surface almost perfectly smooth; most of following terga with a few faint mucronate striae and reticles at sides; tube 197, across base 94, at tip 44, sides straight, surface smooth, basal pores dorsal, terminal setae 126; other setae long, mostly knobbed, I and II on IX scarcely pointed, 167 and 182, respectively.

BRAZIL: Nova Teutonia, S. C., 1954, Fritz Plaumann, 1 ♀ (holotype), under fallen leaves.

Terthrothrips balteatus, sp. nov.

The only species of the genus with blackish brown body, yellow second abdominal segment, and yellow antennae.

♀, *forma macroptera*.—Length about 1.4 mm. (fully distended, 1.8 mm.). Color blackish brown, with abdominal segment II and anterior part of III lemon yellow; legs bright yellow; fore wings light brown, edged with darker and with a dark median streak at middle; antennae blackish brown in most of segments I and II, bright yellow beyond. Head 211, across eyes 140, just behind eyes 119, across cheeks 142, near base 132, across basal collar 134, across head-process 80; cheeks curved rather abruptly to eyes and gently toward base, lightly serrate; dorsal surface with a few anastomosing striae across base, nearly smooth in ocellar area, very faintly rugose medially, with distinct raised lines along cheeks; postocular setae 63, straight, dilated at tip, interval 96, distance from eyes 13; eyes 59, protruding, width 42, interval 56. Antennal segments: I 44 (40), II 57 (31), III 90 (27), IV 84 (25), V 76 (24), VI 59 (23), VII 49 (20), VIII 53 (11); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 117, across coxae 253; pronotum smooth except for the usual faint striae along posterior margin; fore margin and anterior angles strengthened, the latter prominent; antero-marginal setae vestigial, antero-angulars 56, midlaterals 70, epimerals 80, postero-marginals 86, coxals 53, all of these last nearly straight and with dilated tips; mesothorax 238 across anterior angles; pelta of metathorax well differentiated, not overhanging, not prolonged, reticulate throughout; legs normal, fore tibiae strongly serrate along inner surface, fore tarsi with the usual long recurved tooth; fore wings 630. Abdomen 304 at segment IV; median tergite of I capstan-shaped, reticulate anteriorly; most of following terga with a few mucronate lines and reticles at sides, otherwise nearly smooth; tube 129, across base 66, at tip 35, sides nearly straight, surface smooth, terminal setae 75; other setae long, nearly all knobbed, I and II on IX 124-127, both knobbed.

♀, *forma brachyptera*.—Head paler than in long-winged form, yellowish brown medially; other details of color, and the structure, apparently not different; wing-pads about attaining first abdominal segment.

♂ (brachypterous).—Color and structure essentially as in long-winged ♀, except that the head is yellowish brown medially and the eighth abdominal segment yellowish; glandular area on sternum VIII occupying most of segment.

BRAZIL: Nova Teutonia, S. C., February 1953 to October 1955, Fritz Plaumann, 23 ♀♀ (including holotype, macropterous, taken in August 1954; and morphotype, brachypterous, taken in August 1955) and 6 ♂♂ (including allotype taken in October 1955), under fallen leaves.

Terthrothrips hebes, sp. nov.

Distinct in having the head much more than twice as long as the width just behind eyes, and in having only one sense-cone on the outer surface of the third antennal segment.

♀ (brachypterous).—Length about 1.4 mm. (fully distended, 1.8 mm.). Color of head yellow, heavily shaded with brown along cheeks; prothorax

brown, pterothorax and abdomen blackish brown, the abdomen becoming paler in segments VIII and IX; tube blackish brown, paler across base and in apical half; legs yellow, with femora and tibiae shaded with brown excepting at ends, the femora darker; antennae largely blackish brown in segments I and II, III yellow, IV and V yellow in pedicels, their apical portions and VI-VIII dark gray-brown. Head 216, across eyes 115, just beyond eyes 92, across cheeks 137, near base 123, across basal collar 128, across head-process 75; cheeks evenly arcuate, strongly serrate; dorsal surface reticulate across base, rugose in ocellar area, and with irregular short transverse rugae between these areas, cheeks with short raised lines; postocular setae 65, straight, dilated at tip, interval 75, distance from eyes 17; eyes 46, strongly protruding, coarsely faceted (only 4 or 5 facets in lateral profile), width 27, interval 60. Antennal segments: I 40 (37), II 53 (30), III 77 (25), IV 76 (24), V 70 (23), VI 53 (22), VII 41 (20), VIII 49 (13); sense-cones on III 1 (1), IV 1 (2); all setae pointed. Prothorax 136, across coxae 238; pronotum smooth except for the usual faint striae along posterior margin; fore margin and anterior angles strengthened; antero-marginal setae vestigial, antero-angulars 72, midlaterals 73, epimerals 80, postero-marginals 87, coxals 48, all of these last nearly straight and with dilated tips; mesothorax 196 across anterior angles; pelta of metathorax only vaguely differentiated, nearly or quite smooth; legs normal, fore tibiae strongly serrate along inner surface, fore tarsi with the usual long recurved tooth. Abdomen 353 at segment IV; median tergite of I little narrowed in anterior portion, not at all capstan-shaped, indistinctly reticulate over most of surface; most of following terga with a few mucronate lines and reticles at sides and with a few irregular anastomosing transverse striae just behind antecostal line; tube 120, across base 66, at tip 34, sides nearly straight, surface smooth, terminal setae 65; other setae long, nearly all knobbed, I on IX 99 and knobbed, II on IX 103 and rounded at tip.

♂ (brachypterous).—Like ♀ in color and general structure; prothorax and fore legs often enlarged; glandular area on sternum VIII traversing the segment just behind antecostal line and occupying about one-fourth of its length.

BRAZIL: Nova Teutonia, S. C., May 1953, February 1954, and 1954, Fritz Plaumann, 6 ♀♀ (including holotype taken in February 1954) and 4 ♂♂ (including allotype taken in May 1953), under fallen leaves.

Terthrothrips impolitus, sp. nov.

Like *irretitus*, only, in having yellow antennae, yellow second abdominal segment, and head reticulate medially throughout its length; but much smaller (head about 210, in comparison with about 258), with stouter antennae, and with anterior angles of pronotum not angulate and tooth-like.

♀ (brachypterous).—Length about 1.4 mm. (fully distended, 1.7 mm.). Color yellow, head narrowly shaded along sides, pterothorax brown, abdominal segment II pale yellow, IV-VI brown, VII-IX successively paler, III-VI with small median brown cloud on antecostal line, tube brown but paler across base and in about apical third; legs yellow; antennal segments I and II largely blackish brown, III-VIII yellow. Head 210, across eyes 128, just behind eyes 106, across cheeks 139, near base 127, across head-process 73; cheeks strongly and evenly convex, prominently serrate; surface sculptured throughout dorsally, though more weakly near postocue-

lar setae, ocellar area and base of head with all reticles complete and polygonal, those at middle less regular, sculpture of cheeks strongly elevated; postocular setae 59, straight, dilated at tip, interval 79, distance from eyes 15; some of small genal setae usually capitate; eyes 49, protruding and prominent, width 34, interval 60. Antennal segments: I 37 (37), II 52 (30), III 72 (26), IV 66 (26), V 66 (24), VI 55 (22), VII 45 (19), VIII 43 (11); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 113, across coxae 242; pronotum smooth except for the usual faint striae along posterior margin; fore margin and anterior angles strengthened; antero-marginal setae vestigial, coxals 33, all others 60-66, all of these major setae straight and with dilated tips; mesothorax 207 across anterior angles; pelta of metathorax well developed but not overhanging laterally or posteriorly, prolonged nearly to posterior margin of sclerite, distinctly polygonally reticulate; legs normal, fore tibiae indistinctly serrate along inner surface, fore tarsi with the usual recurved tooth. Abdomen 319 at segment IV; median tergite of I little narrowed anteriorly, subtriangular, distinctly reticulate; most of following terga reticulate at sides and reticulo-striate across middle behind antecostal line for about half their length, many of the lateral reticles mucronate; tube 129, across base 68, at tip 32, sides nearly straight, surface nearly smooth, terminal setae 62; other setae long, mostly knobbed, I and II on IX distinctly knobbed, 99 and 109, respectively.

♂ (brachypterous).—Like ♀ in color and general structure; sternum VIII with glandular area occupying about middle half of segment, emarginate at sides.

BRAZIL: Nova Teutonia, S. C., May and November 1953, April and November 1954, Fritz Plaumann, 9 ♀♀ (including holotype taken in April 1954) and 2 ♂♂ (including allotype taken in November 1954), under fallen leaves.

Terthrothrips percultus, sp. nov.

A brilliantly-colored little species, unique in its white-tipped antennae. ♀ (macropterous).—Length about 1.5 mm. (fully distended, 1.8 mm.). Color largely yellow; head clear yellow, slightly darkened in middle of ocellar area, not darkened at sides; prothorax yellow, with bright red internal pigmentation; mesothorax, anterior half of metanotal pelta, and sides of metathorax, brown; abdomen largely bright yellow, with dark red internal pigmentation, shaded in segments II, VIII, and IX, the tube bright yellow and lightly tipped with gray; legs yellow, femora with an indistinct brown cloud at middle; fore wings pale brown, darker in anal lobe, marginally, and medially; antennae pale yellowish brown in segments I and II (II somewhat darker than I), blackish brown in III-V (III yellowish at extreme base, IV and V with a narrow black ring at extreme base followed by a broader yellowish ring), VI gray-brown in most of basal half and fading to pale whitish yellow at tip, VII and VIII pale whitish yellow. Head 210, across eyes 143, just behind eyes 123, across cheeks 141, near base 133, across basal collar 137, across head-process 79; cheeks converging to eyes and slightly toward base of head, widely and lightly serrate; surface smooth in ocellar area and medially, except for a few rows of reticles across base, sculpture of cheeks consisting of widely-spaced slightly-raised lines; postocular setae 62, straight, dilated at tip, interval 75, distance from eyes 14; eyes 56, less

protruding than usual, width 41, interval 62. Antennal segments: I 45 (39), II 55 (30), III 96 (25), IV 93 (25), V 93 (22), VI 63 (21), VII 49 (19), VIII 50 (12); sense-cones on III 1 (2), IV 1 (2); all setae pointed. Prothorax 164, longer than usual, across coxae 281; pronotum smooth except for the usual faint striae along posterior margin; fore margin and anterior angles strengthened; antero-marginal setae vestigial, antero-angulars 61, midlaterals 59, epimerals 83, postero-marginals 86, coxals 50, all of these last nearly straight and with dilated tips; mesothorax 235 across anterior angles; pelta of metathorax well developed but not overhanging laterally or posteriorly, prolonged nearly to posterior margin of sclerite, distinctly polygonally reticulate; legs normal, fore tibiae distinctly serrate along inner surface, fore tarsi with the usual long recurved tooth; fore wings 694. Abdomen 295 at segment III; median tergite of I capstan-shaped, distinctly reticulate over most of surface; most of following terga with a few mucronate lines and reticles at sides and with one irregular transverse stria just behind antecostal line; tube 129, across base 65, at tip 33, sides very slightly concave near base, otherwise about straight, surface nearly smooth, terminal setae 65; other setae long, mostly knobbed, I on IX 97 and knobbed, II on IX with modified tip, 103.

♂ (micropterous).—Like female in color and general structure; sternum VIII largely occupied by a glandular area; *heterogonic major* individuals with prothorax and fore legs greatly enlarged in comparison with those of *heterogonic minor* individuals, the length of pronotum ranging from 211 to 126, width from 308 to 225.

BRAZIL: Nova Teutonia, S. C., May 1953 and April 1954, 24 ♀♀ (including holotype taken in April 1954) and 9 ♂♂ (including allotype and morphotypes taken with holotype), under fallen leaves.

Phragmothrips, gen. nov.

(*phragmos*, a partition; *thrips*—in allusion to the pronotal apodemes)

Allied to *Terthrothrips*, but with a pair of prominent, distally-expanded, ventro-lateral setae on mesothorax and metathorax and with a pair of short apodemes at anterior angles of pronotum, these extending backwards between the antero-angular and midlateral setae. Head smooth dorsally in median area, lightly sculptured at sides; mouth-cone short and rounded; antennae 8-segmented, slender, last segment pedicellate, sense-cone formula III 1 (2), IV 2 (2), V and VI each 1 (1), all setae pointed. Pronotum almost perfectly smooth; femora and tibiae not closely covered with minute setae; fore femora without strong outstanding setae on dorsal surface; fore coxal seta relatively large, at least one-half as long as postoculars; fore wings without accessory setae on hind margin, hind wings with a minute dark dot between each two fringing hairs.

Type species: *Phragmothrips majusculus*, sp. nov.

Phragmothrips majusculus, sp. nov.

Readily known from its congeners by its much larger size and relatively longer tube, this being longer than twice its basal width and longer than the greatest width across cheeks.

♀ (macropterous).—Length about 1.8 mm. (distended, 2.2 mm.). Color chestnut brown, somewhat paler in head, across base of tube, and in apical third of latter; femora yellowish brown, yellow at either end, fore and

mid tibiae yellow but shaded with brown, hind tibiae and all tarsi yellow; fore wings brown, darkest in scale and apically, paler in about basal three-fifths save for a dark costal streak starting near last subbasal seta and for the largely dark posterior half, middle third with an evanescent pale submarginal line; posterior half of hind wings with the usual dark dot between each two fringing setae; antennae nearly uniform blackish brown, with basal fourth of segment III yellow, IV-VI with a dark ring at extreme base and abruptly yellow beyond for a short distance. Head 227, across eyes 158, just behind eyes 143, across cheeks 162, near base 150, across basal collar 160, across head-process 88; surface smooth except along cross-striate cheeks, no sculpture in ocellar area or medially in front of occipital line; postocular setae 77, expanded apically, interval 123, distance from eyes 16; eyes 76, width 52, interval 59 (in a paratype); mouth-cone rounded, 83. Antennal segments: I 51 (43), II 59 (30), III 95 (30), IV 116 (29), V 119 (26), VI 90 (23), VII 52 (19), VIII 55 (13-14). Prothorax 159, across coxae 309; pronotum smooth, without striae along posterior margin; antero-marginal setae vestigial, antero-angulars 82, midlaterals and epimerals 94, postero-marginals 101, coxals 60, all expanded at tip; mesothorax about 312 across anterior angles; pelta of metanotum delimited laterally by a slightly overhanging hook and posteriorly (usually) by two concentric elevated arcs, its surface lightly polygonally reticulate but nearly smooth between the two major setae; fore tarsi with a moderately strong recurved tooth on inner surface; fore wings 896, with the usual three strong knobbed subbasal setae. Abdomen 378 at segment III; median tergite of I reticulate in anterior half; remainder of dorsal surface almost perfectly smooth; tube 176, across base 77, at tip 40, sides straight, terminal setae 113; most setae dilated at tip, IX with I 148, II 182, both slightly dilated at tip.

♂ (macropterous).—Like female in color and structure; pronotum, fore legs, and tarsal tooth sometimes enlarged; glandular area occupying most of sternum VIII.

BRAZIL: Nova Teutonia, S. C., February 1953 to September 1955, Fritz Plaumann, 7 ♀♀ (including holotype taken in September 1955) and 3 ♂♂ (including allotype taken in October 1954), under fallen leaves.

Phragmothrips paulus, sp. nov.

Like the following species (*inuncatus*) in lacking a pale and less-sclerotized subbasal ring on antennal segments IV and V; but with the pelta of metathorax defined at sides by the usual slightly overhanging hook-shaped fold and smooth in the broad basal area, antennal segments slightly slenderer, setae shorter (I on abdominal tergum III about 60 μ long), and median tergite of I narrower, its apical portion about 50 μ wide.

♀ (brachypterous).—Length about 1 mm. (fully distended, 1.3 mm.). Color almost uniform blackish brown, with the usual red internal pigmentation; head darker than prothorax, not pale between eyes, nearly black along sides; tube paler across base and in about apical half; legs deep yellow, lightly washed with brown; antennae nearly uniform blackish brown, yellow in pedicel of segment III, IV-VI without pale subbasal ring. Head 137, across eyes 103, behind eyes 99, across cheeks 113, near base 103, across basal collar 105, across head-process 58; surface smooth except along the rather heavily cross-striate cheeks (these thus roughened

or coarsely serrate), no sculpture in ocellar area or medially in front of occipital line; postocular setae 45, expanded apically, interval 74, distance from eyes 8; eyes 40, width 27, interval 50; mouth cone rounded, 37. Antennal segments: I 30 (30), II 40 (25), III 52 (24), IV 49 (24), V 52 (23), VI 45 (19), VII 32 (16), VIII 35 (10). Prothorax 86, across coxae 179; pronotum smooth, without striae along posterior margin; antero-marginal setae vestigial, antero-angulars, midlaterals, and epimerals 45-47, postero-marginals 52, coxals 37, all slightly expanded at tip; mesothorax about 168 across anterior angles; pelta of metanotum delimited laterally by a slightly overhanging hook-shaped loop and posteriorly usually by a line or more of sculpture, its surface smooth; fore tarsi with the usual moderately strong recurved tooth on inner surface; wing-pads about attaining second abdominal tergum, with the usual three long dilated subbasal setae. Abdomen 221 at segment IV; median tergite of I relatively narrow, its apical portion about 50 wide, its surface lightly reticulate in about anterior half; remainder of dorsal surface nearly smooth; tube 88, across base 52, at tip 27, sides straight, terminal setae 47; most setae dilated at tip, I on III about 60, IX with I and II 81-83, both slightly dilated at tip.

♂ (brachypterous).—Like female in color and structure; glandular area occupying most of sternum VIII, faintly granulate.

BRAZIL: Nova Teutonia, S. C., August 1952 to September 1955, 12 ♀♀ (including holotype taken in September 1955) and 6 ♂♂ (including allotype taken in August 1952); Erechim, Rio Grande do Sul, August 1956, 2 ♀♀. All specimens were taken by Mr. Fritz Plaumann under fallen leaves.

Phragmothrips inuncatus, sp. nov.

Like the preceding species (*paulus*) in lacking a pale and less sclerotized subbasal ring on antennal segments IV and V; see above description for comparison of the two.

♀ (brachypterous).—Length about 1.1 mm. (fully distended, about 1.4 mm.). Color almost uniform blackish brown, with the usual red internal pigmentation; head darker than prothorax, not pale between eyes, not especially darkened along sides; tube paler across base and in about apical half; legs deep yellow, lightly washed with brown; antennae nearly uniform blackish brown, yellow in pedicel of III. Head 143, across eyes 114, behind eyes 107, across cheeks 122, near base 112, width across basal collar 116, across head-process 64; surface smooth except along the cross-striate cheeks (these thus rather finely serrate), no sculpture in occipital area, a few very faint striae in front of occipital line; postocular setae 52, expanded apically, interval 89, distance from eyes 10; eyes 48, width 30, interval 54; mouth-cone rounded, 50. Antennal segments: I 34 (32), II 45 (26), III 53 (27), IV 53 (26), V 53 (24), VI 49 (22), VII 36 (19), VIII 40 (12). Prothorax 100, across coxae 196; pronotum nearly smooth but with a few short striae almost behind postero-marginal setae; antero-marginal setae vestigial, antero-angulars 44, midlaterals 52, epimerals 51, postero-marginals 71, coxals 44, all slightly expanded at tip; mesothorax about 196 across anterior angles; pelta of metanotum delimited laterally by a slightly overhanging arc (rather than by a hook-like line), reticulate throughout though very faintly medially; fore tarsi with the usual moderately strong recurved tooth on inner surface; wing-

pads not attaining first abdominal tergum, with the usual three long dilated subbasal setae. Abdomen 245 at segment III; median tergite of I relatively broad, its apical portion about 70 wide, its surface smooth; tube 101, across base 57, at tip 29, sides straight, terminal setae 66; most setae dilated at tip, I on III about 80, IX with I and II 103-104, these last slightly dilated at tip.

♂ (brachypterous).—Like female in color and structure; glandular area occupying most of sternum VIII, faintly granulate.

BRAZIL: Nova Teutonia, S. C., September 1953 and April 1954, Fritz Plaumann, 22 ♀♀ (including holotype taken in April 1954) and 1 ♂ (allotype, April 1954), under fallen leaves.

Phragmothrips achaetus, sp. nov.

Recognizable at once by the vestigial antero-angular setae.

♀ (macropterous).—Length about 1.3 mm. (fully distended, 1.6 mm.). Color almost uniform blackish brown, with the usual red internal pigmentation, head darker than prothorax, yellowish between eyes, nearly black along sides, tube paler basally and in about apical half; legs deep yellow, lightly washed with brown; fore wings brown, darkest in scale and apically, paler in about basal three-fifths save for a dark costal streak starting near last subbasal seta and for a dark nearly median streak in about middle third, slightly paler for a short distance behind and beyond distal end of this streak; posterior half of hind wings with the usual dark dot between each two fringing setae; antennae nearly uniform blackish brown, paler at extreme base of segment III, IV-VI with a narrow dark ring at extreme base and an abrupt white ring immediately beyond. Head 176, across eyes 123, behind eyes 106, across cheeks 123, near base 114, across basal collar 117, across head-process 67; surface smooth except along cross-striate cheeks, no sculpture in ocellar area or medially in front of occipital line; postocular setae 61, expanded apically, interval 88, distance from eyes 11; eyes 63, width 39, interval 43; mouth-cone rounded, 64. Antennal segments: I 36 (34), II 47 (27), III 75 (23), IV 83 (24), V 84 (22), VI 60 (19), VII 40 (16), VIII 46 (10). Prothorax 103, across coxae 202; pronotum smooth, without striae along posterior margin; antero-marginal and antero-angular setae vestigial (3-5), mid-laterals 55, epimerals 66, postero-marginals 69, coxals 49, all expanded at tip; mesothorax about 195 across anterior angles; pelta of metanotum delimited laterally by a slightly overhanging hook and posteriorly (usually) by about two irregular elevated concentric arcs, its surface lightly polygonally reticulate between these arcs and basally but nearly smooth between the two major setae; fore tarsi with a moderately strong recurved tooth on inner surface; fore wings 511, with the usual three strong dilated subbasal setae. Abdomen 252 at segments III-IV; median tergite of I smooth; remainder of dorsal surface almost perfectly smooth; tube 107, across base 57, at tip 28, sides straight, terminal setae 52; most setae dilated at tip, IX with I 100, II 107, both slightly dilated at tip.

♂ (macropterous).—Like female in color and structure; pronotum, fore legs, and tarsal tooth sometimes enlarged, the femora then bent at base; glandular area occupying most of sternum VIII, faintly granulate.

BRAZIL: Nova Teutonia, S. C., September and October 1954, and August to October, 1955, Fritz Plaumann, 18 ♀♀ (including holotype

taken in August 1955) and 9 ♂♂ (including allotype taken in September 1955), under fallen leaves.

Copiothrips, gen. nov.

(*kope*, oar; *thrips*—in allusion to the four expanded setae projecting laterally from the pterothorax)

Head usually striate medially, sometimes nearly smooth except at sides, occasionally reticulate throughout, but with the polygons not equilateral and with the lines separating the reticles tending to form straight diagonal lines in the median area and behind the postocular setae; mouth-cone short and rounded; antennae 8-segmented, not especially slender, the last segment pedicellate, segment IV longer than III, sense-cone formula, III 1 (2), IV 2 (2), V and VI each 1 (1), inner apical seta on II usually broadened at tip, some apical setae on III and IV either dilated or with tips modified. Mesothorax and metathorax each with a pair of prominent, outstanding, distally-expanded setae arising from ventro-lateral surface; femora and tibiae not closely covered with minute setae; fore femora with two strong outstanding setae (usually knobbed) near middle of the morphologically dorsal surface, middle and hind femora each with one; fore coxal seta relatively small, less than one-half the length of postoculars; fore tibiae not serrate along inner surface; fore tarsi toothed; fore wings without accessory setae on hind margin, hind wings without a minute dark dot between each two fringing hairs.

Type species: *Copiothrips fuscifrons*, sp. nov.

Allied to *Eurythrips*, *Terthrothrips*, etc.; distinguished from most of these by the ventro-lateral pterothoracic setae, from the others by the sculptured head and shorter antennal segments.

Copiothrips fuscifrons, sp. nov.

Differs from *fulvescens* in that the head is much darkened between the eyes and in front, about 164 μ across cheeks; sculpture of head, thorax, and abdomen much weaker, the cheeks scarcely serrate, the reticulation of the pelta of metathorax very indistinct between the two major setae, sculpture at sides of tergum II of abdomen weak and only sparsely mucronate; postoculars and other major setae less modified and less bent at tip; sternum VIII of female with a small pair of setae between and behind the large pair at lateral thirds of posterior margin; sides of tube somewhat concave.

♀ (macropterous).—Length about 1.6 mm. (fully distended, 1.9 mm.). Color chestnut brown, darkest between and anterior to eyes, along sides of pterothorax, and in apical abdominal segments, tube somewhat paler across base and in about apical half; legs yellow but shaded lightly with brown in femora and tibiae; fore wings brown or gray; antennae darkest and blackish in segments I and II, III largely yellow but clouded with darker beyond pedicel and again in apical third, IV and V yellow in about basal third, and shaded beyond, V darker than IV, VI-VIII dark gray-brown. Head 183, across eyes 154, just behind eyes 148, across cheeks 164, near base 145, across head-process 78; surface reticulate along cheeks, closely striate medially across base, lightly reticulate medially from there to median ocellus, cheeks not noticeably serrate; postocular setae 74, somewhat curved, asymmetrically dilated at tip, interval 130, distance from eyes 16; eyes 63, width 45, interval 63; mouth-cone

rounded, 72. Antennal segments: I 37 (39), II 51 (29), III 70 (32), IV 74 (29), V 73 (26), VI 60 (22), VII 44 (20), VIII 49 (13), sense-cones on III 1 (2), IV 2 (2). Prothorax 109, across coxae 265; pronotum with a few faint striae across posterior margin, remainder smooth; antero-marginal setae vestigial, antero-angulars 68, midlaterals 64, epimerals 87, postero-marginals 92, coxals 24, all curved and asymmetrically dilated at tip; mesothorax 279 across anterior angles; metanotum with differentiated pelta, this rounded posteriorly and reticulate, nearly smooth between the two major setae; fore wings 748, with the usual three knobbed subbasal setae; fore tarsi with a minute tooth on inner surface. Abdomen 340 at segment IV; median tergite of I lightly reticulate; II lightly reticulate laterally, the reticular lines sparsely mucronate, especially the basal ones; tube 153, across base 71, at tip 32, terminal setae 89; most setae dilated at tip, IX with I 132 and rapidly pointed, II 150 and finely pointed.

♂ (macropterous).—Like female in color and structure; glandular area occupying most of sternum VIII, its lateral edges emarginate.

BRAZIL: Nova Teutonia, S. C., May 1953 to September 1955, Fritz Plaumann, 14 ♀♀ (including holotype taken in April 1954) and 1 ♂ (allotype, taken in August 1955), under fallen leaves.

Copiothrips flaviventris, sp. nov.

The principal diagnostic characters of this species are as follows: (1) tube shorter than head, (2) antennae very slender (see measurements in following description), (3) head very long, about 1.6 times as long as width across eyes, (4) abdomen (including tube) yellow or yellowish, without dark median spots, and (5) median tergite of first abdominal segment nearly triangular and reticulate almost throughout.

♀, *forma macroptera*.—Length about 1.8 mm. (fully distended, 2.2 mm.). Color brownish yellow, thorax, sides of head, and middle of tube darkened with brown; legs about concolorous with body but with tibiae darkened; fore wings light brown, with a postmedian dark line before middle; antennae dark brown, yellow or yellowish in pedicels of III-VI. Head 251, across eyes 159, just behind eyes 138, across cheeks 159, near base 138, across basal collar 141, across head-process 86; cheeks serrate, only slightly convex, rounded to eyes and tapering toward base; surface lightly reticulate in ocellar area, more distinctly so from occipital line to occipital setae, strongly so along cheeks, the entire remainder of dorsum cross-striate by anastomosing lines; postocular setae 30, dilated and bent at tip, their interval 121, distance from eyes 10; eyes 66, width 46, interval 67, rather finely faceted. Antennal segments: I 48 (45), II 57 (33), III 90 (31), IV 114 (29), V 112 (27), VI 83 (22), VII 53 (21), VIII 54 (13); sense-cones on III 1 (2), IV 2 (2); inner apical seta on II and several on each of III and IV dilated at tip. Prothorax 130, across coxae 279; pronotum striate except at middle; antero-marginal setae vestigial, antero-angulars 50, midlaterals 44, epimerals 81, postero-marginals 64, coxals 19, all of these strong, with dilated bent tips; mesothorax 291 across anterior angles; metanotal pelta well differentiated, reticulate, prolonged backward to margin of sclerite; fore tarsi with moderately large recurved tooth; fore wings 889, with the three subbasal setae successively larger, dilated at tip. Abdomen 377 at segment III, median tergite of I subtriangular, with rounded corners, reticulate

nearly throughout; following terga distinctly sculptured except along the smooth posterior margin, reticulate and partially mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 179, across base 69, at tip 34, sides thickened and nearly straight, surface nearly smooth, terminal setae 95; other setae long, most of them with bent dilated tips, I on IX 130 and with tip slightly dilated, II 150 and with tip rounded.

♀, *forma brachyptera*.—Like long-winged ♀ in color and structure; wing-pads about 112, with one long dilated seta.

♂ (brachypterous).—Like ♀ in color and general structure; glandular area on sternum VIII occupying most of segment.

BRAZIL: Nova Teutonia, S. C., May 1953 to October 1955, Fritz Plaumann, 1 macropterous ♀ (holotype, taken in November 1954), 3 brachypterous ♀♀ (including morphotype taken in October 1955), and 4 ♂♂ (including allotype taken in May 1953), under fallen leaves.

Copiothrips fulvescens, sp. nov.

♀ (brachypterous).—Length about 1.3 mm. (partially distended, 1.5 mm.). Color brown, abdomen darkest and blackish, head pale yellowish brown but darkened along sides and nearly yellow anteriorly, pterothorax darker than prothorax and paler than abdomen; legs bright yellow; antennae brown in segments I, II, and IV-VIII, III yellow or shaded apically, base of IV yellow or at least pale. Head 170, across eyes 123, just behind eyes 115, across cheeks 132, near base 121, across head-process 69, surface deeply sculptured along cheeks, faintly reticulate in ocellar area, more distinctly so medially to occipital line and across base, cheeks strongly serrate; postocular setae 53, strongly curved (especially apically) and with an asymmetrical golf-club-shaped tip, interval 100, distance from eyes 14; eyes 49, width 35, interval 54; mouth-cone rounded, 49. Antennal segments: I 36 (35), II 46 (29), III 59 (27), IV 60 (27), V 58 (24), VI 46 (23), VII 37 (19), VIII 41 (13), sense-cones on III 1 (2), IV 2 (2). Prothorax 94, across coxae 218; pronotum with a few faint striae anterior to episterna and along posterior margin, remainder smooth; antero-marginal setae vestigial, antero-angulars 56, midlaterals 55, epimerals 91, postero-marginals 75, coxals 20, all formed and curved like postoculars, the expanded tips of epimerals about 18 μ long; mesothorax about 213 across anterior angles; pelta of metanotum reticulated throughout, to posterior margin of the sclerite; fore tarsi with a small tooth on inner surface. Abdomen 294 at segment III; median tergite of I distinctly reticulate; II distinctly reticulate laterally and lightly medially at base, the lateral reticular lines largely mucronate, even in basal part of tergum; tube 151, across base 65, at tip 30, its sides straight, terminal setae 80; most setae dilated and strongly bent at tip, IX with I 136 and dull, II 154 and finely pointed.

♂ (brachypterous).—Like female in color and structure; glandular area occupying most of sternum VIII, its lateral edges emarginate.

BRAZIL: Nova Teutonia, S. C., August 1952 to October 1955, 9 ♀♀ (including holotype taken in July 1955) and 2 ♂♂ (including allotype taken in February 1954), Fritz Plaumann; under fallen leaves.

Copiothrips subglaber, sp. nov.

Known at once from the other species in which the tube is longer than the head by the pointed antennal setae, the smooth head at middle of

dorsal surface, and the shield-shaped metanotal pelta whose reticulation is not prolonged posteriorly to the margin of the sclerite.

♀ (macropterous).—Length about 1.6 mm. (fully distended, 2.0 mm.). Color chestnut brown, somewhat paler in head; tube brownish yellow in about basal fifth and pale again at tip, nearly blackish brown between; legs about concolorous with body, with tarsi and both ends of femora and tibiae yellowish; fore wings light brown, darker in scale, medially, and marginally; antennae about concolorous with body, with pedicel of III yellow. Head 203, across eyes 152, just behind eyes 136, across cheeks 156, near base 136, across basal collar 137, across head-process 79; cheeks serrate, rounded to eyes from anterior third, tapering toward base, often with a slight tooth behind eyes; surface faintly reticulate in ocellar area, reticulo-striate across base, and distinctly reticulate along sides, almost perfectly smooth at middle; postocular setae 48, slightly curved, dilated at tip, 124 apart and 16 from eyes; eyes 63, width 43, interval 67, rather finely faceted. Antennal segments: I 46 (40), II 56 (30), III 80 (33), IV 95 (30), V 83 (27), VI 68 (24), VII 44 (20), VIII 50 (15); sense-cones on III 1 (2), IV 2 (2); all setae pointed. Prothorax 117, across coxae 265; pronotum lightly striate along posterior margin, smooth elsewhere; antero-marginal setae vestigial, antero-angulars small, only 28, midlaterals 46, epimerals 67, postero-marginals 68, coxals 16, all slightly curved and slightly dilated at tip; mesothorax 269 across anterior angles; metanotal pelta well differentiated, shield-shaped, pointed behind, and reticulate, the reticulation not carried to posterior margin of sclerite; fore tarsi with the usual recurved tooth short; fore wings 770, with the usual three large somewhat dilated subbasal setae. Abdomen 321 at segment IV; median tergite of I subtriangular, with rounded corners and a darker, reticulated, oval, median portion; following terga lightly sculptured except along the smooth posterior margin, reticulate and only slightly mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 227, across base 79, at tip 36, sides thickened and straight, surface smooth, terminal setae 109; other setae moderately long, with blunt or slightly dilated tips, I on IX 142 and rounded at tip, II 216 and pointed.

♂ (macropterous).—Like ♀ in color and general structure; glandular area on sternum VIII occupying more than one half its length and most of its width, emarginate at sides.

BRAZIL: Nova Teutonia, S. C., May 1953 to October 1955, Fritz Plaumann, 60 ♀♀ (including holotype taken in April 1954) and 14 ♂♂ (including allotype taken with holotype), under fallen leaves.

Copiothrips brasiliensis, sp. nov.

Like *subglaber* and *ustulatus* in having the tube longer than the head; differing from former in having the inner apical seta on segment II and several of the dorsal ones on III and IV dilated at tip, in having the head cross-striate medially, and the metanotal pelta prolonged to posterior margin of the sclerite; agreeing with *ustulatus* in these characters, but differing in the smaller size, less slender antennae, and the less finely reticulate pelta of the metanotum.

♀ (macropterous).—Length about 1.5 mm. (fully distended, 1.9 mm.). Color chestnut brown, head a trifle darker than prothorax; tube blackish

brown, narrowly paler across base and at tip; legs somewhat paler than body, with tarsi and both ends of femora and tibiae paler, fore tibiae often darkest; fore wings light brown, darker in seale, medially, and marginally; antennae about concolorous with head in segments I and II, III dull yellow but lightly shaded apically, IV-VI successively darker but with their pedicels pale yellow, VII and VIII dark gray-brown. Head 196, across eyes 151, just behind eyes 136, across cheeks 151, near base 140, across basal collar 145, across head-process 76; cheeks serrate, rounded to eyes from anterior third, tapering toward base; surface reticulate in ocellar area, reticulo-striate across base, and distinctly reticulate along sides, the entire remaining median area striate with anastomosing lines; postocular setae 57, curved, with rather long spoon-shaped tips, their interval 119, distance from eyes 19; eyes 63, width 46, interval 59, rather finely faceted. Antennal segments: I 37 (39), II 53 (30), III 73 (31), IV 81 (30), V 79 (25), VI 58 (23), VII 47 (20), VIII 52 (15); sense-cones on III 1 (2), IV 2 (2); inner apical seta on II and usually about two on III and IV dilated at tip. Prothorax 87, across coxae 262; pronotum lightly striate along posterior margin, nearly smooth elsewhere; antero-marginal setae vestigial, antero-angulars 60, midlaterals 64, epimerals 81, postero-angulars 97, coxals 21, all of these dilated like postoculars and with their tips bent inwards; mesothorax 276 across anterior angles; metanotal pelta well differentiated, reticulate, prolonged backward to margin of sclerite, and with about four reticles between the two major setae; fore tarsi with moderately large recurved tooth; fore wings 748, with the usual three large somewhat dilated subbasal setae. Abdomen 350 at segments III-IV; median tergite of I subtriangular, with rounded corners and a darker, reticulated, oval, median portion; following terga lightly sculptured except along the smooth posterior margin, reticulate and partially mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 210, across base 77, at tip 35, sides thickened and straight, surface smooth, terminal setae 87; other setae long, slightly curved and with bent dilated tips, I on IX 131 and very slightly dilated, II 164 and very finely pointed.

♂, *forma brachyptera* and *forma macroptera*.—Like female in color and general structure; glandular area on sternum VIII occupying most of segment.

BRAZIL: Nova Teutonia, S. C., May 1953 to October 1955, Fritz Plaumann, 52 ♀♀ (including holotype taken in April 1954), 17 brachypterous ♂♂ (including allotype taken with holotype), and 2 macropterous ♂♂ (including morphotype taken in September 1955), under fallen leaves.

Copiothrips ustulatus, sp. nov.

See preceding species, *brasiliensis*, for separation from allies.

♀, *forma macroptera*.—Length about 1.7 mm. (fully distended, 2.2 mm.). Color chestnut brown, tube darkest and somewhat paler apically, the legs concolorous with body; fore wings brown, darkened medially and marginally; antennae about concolorous with body, pedicels of III-VI yellowish. Head 217, across eyes 161, just behind eyes 147, across cheeks 167, near base 143, across basal collar 144, across head-process 86; cheeks serrate, rounded to eyes from anterior fourth, tapering toward base; surface reticulate in ocellar area, reticulo-striate across base, and distinctly reticulate along sides, the entire remaining median area striate with

anastomosing lines; postocular setae 65, curved, with rather long spoon-shaped tips, their intervals 128, distance from eyes 20; eyes 66, width 48, interval 66, rather finely faceted. Antennal segments: I 47 (43), II 56 (35), III 83 (30), IV 93 (30), V 90 (27), VI 72 (23), VII 51 (22), VIII 56 (16); sense-cones on III 1 (2), IV 2 (2); inner apical seta on II and 4-5 on III and IV dilated at tip. Prothorax 97, across coxae 284; pronotum lightly striate along posterior margin and in front of episterna, nearly smooth elsewhere; antero-marginal setae vestigial, antero-angulars 50, midlaterals 70, epimerals 83, postero-marginals 82, coxals 20, all of these dilated like postoculars and with their tips bent slightly inwards; mesothorax 294 across anterior angles; metanotal pelta well differentiated, reticulate, prolonged backward to margin of sclerite, and with about six reticles between the two major setae; fore tarsi with moderately large recurved tooth; fore wings 896, with the usual three large somewhat dilated subbasal setae. Abdomen 420 at segment III; median tergite of I subtriangular, with rounded corners and a darker, reticulated, oval median portion; following terga distinctly sculptured except along the smooth posterior margin, reticulate and partially mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 252, across base 88, at tip 40, sides thickened and straight, surface smooth, terminal setae 99; other setae long, slightly curved, and with dilated tips, I on IX 134 and dilated, II 185 and finely pointed.

♀, *forma brachyptera*.—Like long-winged female in color and structure; wing-pads extending to second abdominal segment.

♂ (brachypterous).—Like ♀ in color and general structure; glandular area on sternum VIII occupying most of width of segment, emarginate at sides and in front, its median length about one-third that of segment.

BRAZIL: Nova Teutonia, S. C., November 1952, 1 macropterous ♀ (holotype); July 1955, 1 brachypterous ♀ (morphotype) and 1 ♂ (allotype); and October 1955, 2 macropterous ♀♀; all specimens taken by Mr. Fritz Plaumann, under fallen leaves.

Orthothrips divergens, sp. nov.

Readily known from *woytkowskii* (presumably the only other species of the genus which has the tube longer than the head and seta I on abdominal segment IX considerably longer than the basal width of tube) by the more slender head (nearly 1.5 times as long as width across eyes and 1.8 times as long as least width near base), and the lightly reticulate third to sixth antennal segments.

♀ (macropterous).—Length about 1.8 mm. (fully distended, 2.1 mm.). Color chestnut brown, becoming decidedly yellowish toward tip of abdomen, tube yellow at base and brown beyond; legs yellow, femora lightly shaded with brown; fore wings light brown, somewhat darkened marginally at tip and with a short dark streak at middle; antennae dark brown in most of segments I and II, all of III and pedicel of IV deep golden yellow, their remainder dark brown but usually with pedicels of V and VI yellowish. Head 234, across eyes 160, just behind eyes 140, across cheeks 160, near base 130, across basal collar 133, across head-process 87; cheeks curving abruptly to eyes in anterior fifth, remainder straight and converging to base; surface polygonally reticulate, more finely in ocellar area and along sides, the cheeks thus finely serrate; postocular setae small (14), obliquely truncate at tip, curved inward, 123 apart and 16 from

eyes; eyes 63, width 47, interval 67. Antennal segments: I 43 (40), II 60 (34), III 80 (33), IV 79 (30), V 79 (28), VI 63 (24), VII 47 (20), VIII 51 (14); sense-cones on III 1 (2), IV 2 (2); inner apical seta on II dilated, III and IV each with about three setae whose tips are slightly dilated, blunt, or otherwise modified. Prothorax 110, across coxae 266; pronotum reticulate over most of surface, posterior margin with several raised mucronate transverse lines; antero-marginal setae vestigial, antero-angulars, midlaterals, and postero-marginals 22-30, stout, dilated at tip, and somewhat appressed, epimerals 53, much stouter, dilated, coxals 13; mesothorax 281 across anterior angles; pelta of metathorax well differentiated, extending to posterior margin of sclerite, reticulate throughout, the more posterior reticles mucronate; fore tarsi with small tooth; fore wings 781. Abdomen 351 at segment III; median tergite of I with anterior part subrectangular and reticulate; following terga reticulate (except posteriorly), the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 288, across base 89, at tip 39, sides straight, surface lightly polygonally reticulate near base, terminal setae 104; other setae short, curved, nearly all dilated at tip, I on IX 118 and knobbed, II 217 and pointed.

♂ (macropterous).—Very similar to female in color and general structure; glandular area on sternum VIII transversely elliptical, situated at middle of segment.

BRAZIL: Nova Teutonia, S. C., February 1953 to October 1955, Fritz Plaumann, 28 ♀♀ (including holotype taken in April 1954) and 6 ♂♂ (including allotype taken in April 1954), under fallen leaves.

Orthothrips saltuarius, sp. nov.

Very close to *hylaesus*, but with the first and second antennal segments yellow and about concolorous with middle of head, the head itself nearly 1.5 times as long as its width across eyes in ♀, and antennal segment IV about 2.6 times as long as wide in ♀.

♀, *forma macroptera*.—Length about 1.7 mm. (fully distended, 2.0 mm.). Color brownish yellow, with pterothorax and sides of head and of prothorax brown; tube brown, yellowish across base; abdomen with a median brown spot behind antecostal line on segments III-VII; legs deep yellow; fore wings yellowish brown; antennae with segments I-IV deep yellow, IV lightly shaded with brown beyond pedicel, V and VI yellow to first whorl of setae and brown beyond, VII and VIII gray-brown. Head 213, across eyes 145, just behind eyes 127, across cheeks 141, near base 118, across basal collar 120, across head-process 78; cheeks narrowed abruptly to eyes, slightly convex in most of their remainder; surface polygonally reticulate, more finely in ocellar area and along sides, the checks thus finely serrate; postocular setae small (17-21), expanded and obliquely truncate at tip, curved inward, 114 apart and 16 from eyes; eyes 60, width 39, interval 68. Antennal segments: I 43 (37), II 50 (33), III 74 (27), IV 70 (27), V 70 (24), VI 56 (20), VII 43 (20), VIII 42 (13); sense-cones on III 1 (2), IV 2 (2); inner apical seta on II dilated, III and IV each with about four apically-dilated setae. Prothorax 123, across coxae 239; pronotum reticulate throughout except between and behind postero-marginal setae, where it is transverse striate, the striae not mucronate; antero-marginal setae vestigial, antero angulars and midlaterals 18-19, epimerals and postero-marginals 30-31, all of these last

stout and dilated at tip, coxals minute (13) but dilated; pelta of metathorax well differentiated, extending to posterior margin of sclerite, sharply reticulate throughout, the posterior reticles not mucronate; fore tarsi with the usual recurved tooth; fore wings 840. Abdomen 336 at segment III; median tergite of I broad, trapezoidal, with rounded corners, with a reticulated median portion which is broader anteriorly; following terga reticulate (except posteriorly), the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 179, across base 61, at tip 29, sides straight, surface lightly polygonally reticulate basally, terminal setae 73; other setae short, curved, nearly all dilated at tip, I on IX 86 and knobbed, II 102 and slightly dilated.

♀, *forma brachyptera*.—Not appreciably different from long-winged form in either color or structure.

♂ (brachypterus).—Like ♀ in color and general structure; glandular area on sternum VIII occupying most of segment.

BRAZIL: Nova Teutonia, S. C., May 1953 to September 1956, Fritz Plaumann, 7 macropterous ♀♀ (including holotype taken in February 1954), 47 brachypterous ♀♀ (including morphotype taken in September 1955), and 2 ♂♂ (including allotype taken in October 1955), under fallen leaves.

Erkosothrips silvaticus*, sp. nov.

Very different from the following species (*bucca*), which is the only other South American species assigned to the genus, differing in the much longer tube, the presence of two pairs of long, knobbed, ventro-lateral pterothoracic setae, and the possession of two sense-cones on each side of the fourth antennal segment.

♀ (brachypterus).—Length about 1.6 mm. (fully distended, 2.0 mm.). Color nearly uniform brownish yellow, with dark antecostal line followed by a dark spot on abdominal segments III-VIII; legs concolorous with body; antennae with segments I-III about concolorous with head, II heavily shaded at sides, III shaded apically, IV-VIII dark blackish brown, IV and V yellow or yellowish to first whorl of setae. Head 189, across eyes 140, just behind eyes 120, across cheeks 145, near base 119, across basal collar 124, across head-process 80; cheeks hollowly narrowed to eyes from an apical tooth, roundly arched and narrowed toward base; surface polygonally reticulate throughout, more finely in ocellar area, the checks serrate; postocular setae 43, expanded at tip, curved inward, 123 apart and 14 from eyes; eyes 51, width 35, interval 71. Antennal segments: I 42 (38), II 53 (32), III 73 (29), IV 66 (28), V 64 (26), VI 56 (22), VII 43 (20), VIII 46 (13-14); sense-cones on III 1 (2), IV 2 (2); inner apical seta on II dilated, III and IV each with two or three setae more or less dilated. Prothorax 113, across coxae 241; pronotum striate along posterior margin, lightly reticulate elsewhere; antero-marginal setae small and pointed, all others strong, curved, and dilated at tip, coxals 18, the others 49-56; pelta of metathorax well differentiated, extending nearly to posterior margin of sclerite, reticulate throughout;

**Erkosothrips* Stannard. This generic name is apparently based on a Greek word meaning a net, and doubtless refers to the elaborate reticulation, especially of the head. The prescribed transliteration of the word is *hercos*, and the proper combination with *thrips* would result in *Hercothrips*—a name which has previously been used. (See the International Code of Zoological Nomenclature, or Ferris's *The Principles of Systematic Entomology*, or Schenk and McMasters' *Procedure in Taxonomy*.)

fore tarsi with the usual recurved tooth. Abdomen 339 at segment III; median tergite of segment I broad, reticulate, sides slightly converging anteriorly; following terga sculptured excepting along posterior margin, reticulate but only slightly mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 163, near base 69, at tip 30, sides thickened, straight beyond basal pores, surface nearly smooth, terminal setae 92; other setae long, curved, nearly all dilated at tip, I on IX 126 and knobbed, II 146 and pointed.

♂ (brachypterous).—Like ♀ in color and general structure; glandular area on sternum VIII forming an irregular narrow band across middle of segment, occupying about one-fourth the length and two-thirds the width.

BRAZIL: Nova Teutonia, S. C., August 1952 to July 1955, Fritz Plaumann, 23 ♀♀ (including holotype taken in June 1954) and 6 ♂♂ (including allotype taken in April 1954), under fallen leaves.

Erkosothrips bucca, sp. nov.

See description of preceding species, *silvaticus*, for diagnostic characters.

♀ (brachypterous).—Length about 1.2 mm. (fully distended, 1.5 mm.). Color yellowish brown, darker in thorax and in abdominal segments III-VII, with dark antecostal lines followed by a faint dark cloud on III-VIII; legs yellow, paler than body; antennae about concolorous with body, III somewhat paler and yellow in pedicel. Head 178, across eyes 123, just behind eyes 107, across cheeks 140, near base 120, across basal collar 121, across head-process 74; cheeks swollen, evenly arched; surface polygonally reticulate throughout, more finely in ocellar area, reticles at middle transverse, cheeks serrate; postocular setae 44, expanded at tip, nearly straight, 89 apart, 18 from eyes; occipital setae 24, very slender; eyes 37, width 32, interval 59, very coarsely faceted, about three facets in lateral profile. Antennal segments: I 34 (36), II 44 (30), III 50 (30), IV 44 (30), V 47 (27), VI 46 (24), VII 40 (20), VIII 41 (13); sense-cones on III 1 (2), IV 1 (2); all antennal setae pointed. Prothorax 110, across coxae 249; pronotum striate along posterior margin, reticulostriate elsewhere, subrugose near anterior angles; antero marginal setae 20, very slender and pointed, antero-angulars 44, midlaterals 33, epimerals 55, postero-marginals 57, coxals 31, all of these last strong, straight, and dilated at tip; mesothorax 217 across anterior angles; metathorax without well differentiated pelta, polygonally reticulate throughout; fore tarsi with a small tooth. Abdomen 318 at segment IV; median tergite of I almost semicircular, reticulate throughout; following terga sculptured excepting along posterior margin, reticulate but only slightly mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 119, across base 72, at tip 33, sides not thickened, straight, surface smooth, terminal setae 67; other setae long, straight, nearly all dilated at tip, I on IX 106 and dilated, II 110 and dull.

♂ (brachypterous).—Like ♀ in color and general structure; glandular area at middle of sternum VIII very small, circular, about 23 in diameter.

BRAZIL: Nova Teutonia, S. C., April 1954, Fritz Plaumann, 6 ♀♀ (including holotype) and 3 ♂♂ (including allotype), under fallen leaves.

Eschatothrips cerinus, sp. nov.

Separable from the other Brazilian species of the genus by the pale color, yellow second antennal segment, minute and pointed occipital setae,

and the form of the last antennal segment, which is not distinctly narrowed at base, its breadth at that point (12) nearly equal to its greatest breadth (13).

♀ (macropterous).—Length about 1.7 mm. (fully distended, 1.9 mm.). Color deep golden yellow, slightly shaded along sides of thorax; abdomen with the usual median dark cloud behind antecostal line of segments III-VIII; tube yellow, with apical fifth dark blackish brown; legs concolorous with body; fore wings light brown, with a narrow median streak near middle; antennae yellow in segments I-III, II darkest, IV largely yellow, shaded apically, V darker than III, yellow in pedicel, VI-VIII successively darker, pedicel of VI yellow. Head 218, across eyes 160, just behind eyes 137, across cheeks 163, near base 149, across basal collar 151, across head-process 93, broadest posteriorly; cheeks serrate, gently rounded to a tooth behind eyes, more abruptly rounded to near base; surface strongly polygonally reticulate, more finely at sides of ocellar area; postocular setae 30, slightly curved, somewhat broadened at tip, 136 apart, 30 from eyes; eyes 60, width 35, interval 90, coarsely faceted. Antennal segments: I 47 (43), II 58 (36), III 64 (36), IV 60 (33), V 63 (30), VI 56 (26), VII 43 (20), VIII 41 (13); sense-cones on III 1 (1-2), IV 2 (2); most of dorsal setae on II-V slightly expanded at tip. Prothorax 110, across coxae 294; pronotum reticulate throughout, the reticles along posterior margin mucronate; antero-marginal setae wanting, antero-angulars and midlaterals 19-20, epimerals 70, postero-marginals 29, epimerals much heavier than the others, all blunt and curved, coxals minute and pointed; mesothorax 294 across anterior angles; metanotal pelta reticulate to posterior margin of sclerite; fore tarsi unarmed; fore wings 823, subbasal setae minute. Abdomen 329 at segment II; median tergite of I with anterior portion rectangular and reticulate; following terga sculptured excepting along posterior margin, reticulate but only slightly mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 223, across base 93, at tip 39, sides thickened, roundly converging to slightly constricted tip, surface lightly hexagonally reticulate to near tip, lightly ridged, terminal setae 107; other setae mostly rounded at tip, those on basal segments small or minute, I on IX 96-107 and with tip rounded, II 168 and with slender pointed tip.

BRAZIL: Nova Teutonia, S. C., August 1955, Fritz Plaumann, 1 ♀ (holotype), under fallen leaves.

***Eschatothrips decoratus*, sp. nov.**

Separable from the other Brazilian species of the genus by the dark color, yellow second antennal segment, minute and pointed occipital setae, basally-narrowed last antennal segment, and the relatively long fourth antennal segment.

♀ (macropterous).—Length about 1.6 mm. (fully distended, 1.8 mm.). Color chestnut brown, usually darkest along sides of pterothorax, head yellow in front and with a narrow median pale line, abdomen yellow in segment IX and usually with anterior angles of terga III-VIII yellow, sometimes darkest medially except for a pale whitish yellow spot in posterior half of median fourth of terga II or III-VIII; tube orange yellow, tipped with dark blackish brown; legs yellow, with mid and hind femora and tibiae heavily shaded except at either end, the shading on

hind legs darker; fore wings brown, pale at base, submarginally, and in a narrow line just in front of a dark post-median line in about second fourth; antennae with segment I brownish yellow, II and III yellow, IV and V yellow but shaded in swollen apical portion, V darker than IV, VI yellow in about basal half, its remainder and VII and VIII gray-brown. Head 203, across eyes 159, just behind eyes 143, across cheeks 158, near base 145, across basal collar 147, across head-process 76; cheeks serrate, almost straight posterior to the tooth behind eyes; surface strongly polygonally reticulate, more finely in ocellar area; postocular setae 28, slightly curved, somewhat broadened at tip, 129 apart, 22 from eyes; eyes 70, width 45, interval 69, coarsely faceted. Antennal segments: I 39 (33), II 50 (31), III 63 (27), IV 73 (27), V 73 (25), VI 60 (23), VII 40 (18), VIII 35 (13); sense-cones on III 1 (2), IV 2 (2); most of dorsal setae on II-V slightly expanded at tip. Prothorax 97, across coxae 267; pronotum reticulate throughout, the reticles along posterior margin mucronate; antero-marginal setae wanting, antero-angulars 40, midlaterals 24, epimerals 53, postero-marginals 20, epimerals heavier than the others, all blunt and curved, coxals minute and pointed; mesothorax 284 across anterior angles; metanotal pelta reticulate to posterior margin of sclerite; fore tarsi unarmed; fore wings 833, distal subbasal seta about 52 and somewhat broadened at tip, the others minute. Abdomen 321 at segment II; median tergite of I with anterior portion rectangular and reticulate; following terga sculptured except along posterior margin, reticulate but only slightly mucronate at sides, the reticles polygonal in lateral portions and largely quadrilateral in median area; tube 231, across base 74, at tip 37, sides thickened, nearly parallel in about basal half, thence roundly converging to slightly constricted tip, surface deeply hexagonally reticulate to near tip and heavily ridged, terminal setae 145; other setae mostly rounded or slightly dilated at tip, those on basal segments small or minute, I on IX 79 and slightly dilated at tip, II 182 and with slender pointed tip.

♂ (macropterous).—Like ♀ in color and general structure; glandular area on sternum VIII occupying most of its surface, roundly emarginate at sides.

BRAZIL: Nova Teutonia, S. C., July 1953 to October 1955, Fritz Plauermann, 35 ♀♀ (including holotype taken in May 1954) and 8 ♂♂ (including allotype taken in May 1953), under fallen leaves.

Apoxythrips, gen. nov.

(*apoxys*, tapering off; *thrips*—in allusion to the tapering abdomen, ending in a long, slender tube)

Allied to *Orthothrips*. Head, thorax, and abdomen polygonally reticulate; abdomen broadest in segment II or III, tapering posteriorly, the tube exceptionally long and slender, longer than head, and four to five times as long as basal width; bases of intermediate abdominal segments not modified at sides. Antennae 8-segmented; segments III and IV each with two apically-dilated setae, III with one sense-cone on either surface. Fore wings slightly curved, without accessory setae, the three subbasal setae all minute. Prothoracic epimeron not fused with notum. Setae reduced in size, the postoculars, antero-angulars, and postero-marginals very small; lateral abdominal setae and seta I on segment IX shorter than subbasal width of tube; seta III on intermediate abdominal segments not

projecting beyond sides of abdomen; posterior pair of wing-retaining setae on III-VI only slightly farther apart than their distance from sides of abdomen; seta I on these segments much closer to the wing-retaining setae than to sides of abdomen.

Type species: *Apoxythrips stilifer*, sp. nov.

***Apoxythrips stilifer*, sp. nov.**

♀ (macropterous).—Length about 1.8 mm. (nearly fully distended, 2.0 mm.). Color yellowish brown, with head nearly yellow and abdomen paling to nearly yellow in segments VII-IX, the tube dark brown; legs largely brown, with tips of femora and ends of tibiae yellowish, tarsi yellow; fore wings light brown, paler in front of anal lobe, and with a dark post-median streak ending at middle; antennae brown in segments I, II, and VI-VIII (these last darkest), III-V largely yellow, successively more heavily shaded beyond pedicel. Head 220, across eyes 161, behind eyes 148, across cheeks 166, near base 151, across basal collar 155, across head-process 87, its surface strongly reticulate; postocular setae 8, interval 125, distance from eyes 36; eyes 73, width 44, interval 73; mouth-cone normal to group, 56. Antennal segments: I 40 (40), II 50 (32), III 69 (26), IV 70 (27), V 70 (23), VI 60 (22), VII 43 (17), VIII 44 (13); sense-cones on III and IV 1 (1). Prothorax 110, across coxae 290; pronotum distinctly reticulate throughout; epimeral setae heavy, dilated at tip, 47 long, the other setae minute (about 8); mesothorax 329 across anterior angles; metanotal pelta reticulate like head; fore tarsi with a small tooth on inner surface; fore wings 836. Abdomen 356 at segment II, reticulate over most of surface; tube 294, across base 60, at tip 28, terminal setae 101; most setae stout and truncate at tip, III on intermediate segments not projecting beyond sides of abdomen, I on IX 36, II 132, the latter very finely pointed.

♂ (micropterous).—Like ♀ in color and structure; glandular area on sternum VIII of abdomen occupying about one-half the length and 0.7 the width of the segment, its lateral edges emarginate.

BRAZIL: Nova Teutonia, S. C. September and October, 1955, Fritz Plaumann, 3 ♀♀ (including holotype taken in September) and 2 ♂♂ (including allotype, also taken in September), under fallen leaves.

***Chorithrips*, gen. nov.**

(*choris*, asunder, apart; *thrips*—in allusion to the divided mesonotum)

Allied to *Orthothrips* and *Chamaothrips*, differing from the former notably in the longitudinally divided mesonotal sclerite and from both in the presence of strong apodemes arising from the anterior margin of the second abdominal sternum. Head, thorax, and abdomen strongly sculptured, mostly by polygonal reticulation; head much longer than wide, broadest across eyes, notched behind them, heavily polygonally reticulate; mouth-cone very short, normal to group, rounded at tip. Antennae either 7- or 8-segmented, terminal segment pedicellate, III and IV with two or more thickened or apically-dilated setae. Prothoracic epimeron not fused with notum. Mesonotum divided medially by a suture. Fore wings slightly curved, without accessory setae on posterior margin, the subbasal setae all minute. Fore tarsi with a sharp triangular tooth on inner surface. Abdomen rounded apically (rather than evenly tapering); bases of intermediate segments not modified at sides; median tergite of I heavily

sclerotized, nearly or quite three times as wide as long, rounded; II with a pair of strong apodemes arising from anterior margin or sternum; tube much shorter than head, thickened, broadest at the two subbasal pores. Setae reduced in size, the postoculars and all of the prothoracics (excepting sometimes the epimerals) very small; lateral abdominal setae and seta I on segment IX shorter than subbasal width of tube; seta III on intermediate abdominal segments not projecting beyond sides of abdomen; posterior pair of wing-retaining setae on III-VII widely separated; seta I on III-VI much closer to the wing-retaining setae than to sides of abdomen.

Type species: *Chorithrips heptatoma*, sp. nov.

***Chorithrips heptatoma*, sp. nov.**

Readily known from *octotoma*, its only congener, by the 7- instead of 8-segmented antennae, and the much shorter epimeral setae on the prothorax.

♀, *forma macroptera*.—Length about 1.9 mm. (slightly distended, 2.0 mm.). Color yellowish brown to nearly yellow, with sides of head and prothorax, and all of pterothorax, darkened; tube brown, but nearly yellow basally and apically; abdominal terga III-VII each with a sub-rectangular dark gray median spot just behind antecostal line; legs yellow; fore wings light brown; antennae yellow in segments I-III, the following ones successively darker, shaded with brown beyond pedicel. Head 244, across eyes 168, just behind eyes 147, across cheeks 157, near base 134, across basal collar 136, across head-process 92, its surface strongly reticulate; cheeks straight; postocular setae 12, interval 135, distance from eyes 15; eyes 67, width 46, interval 77; mouth-cone normal to group, 42. Antennal segments: I 46 (43), II 53 (33), III 80 (28), IV 70 (28), V 65 (26), VI 57 (23), VII 77 (19), no suture between the morphological seventh and eighth; sense-cones on III 1 (1), IV 1 (2); two apical dorsal setae on III short and blunt. Prothorax 136, across coxae 260, pronotum reticulate throughout; epimeral seta 19, curved, slightly dilated at tip, all others pointed or nearly so, 9-16; mesothorax 276 across anterior angles; metanotal pelta with sides sharply demarcated, reticulate like head; fore tarsi with a small tooth on inner surface; fore wings 878. Abdomen 333 at segment III, polygonally reticulate throughout median tergite of I, in most of II, and in about lateral thirds of III-VII between antecostal line and first pair of wing-retaining setae, median third of III-VIII with cross-striae broken into quadrilaterals, VIII reticulate at sides, IX across base; tube 165, near base 69, at tip 28, terminal setae 70; other setae short, I on most segments blunt, II bluntly pointed, I on IX 35 and slightly dilated, II on IX 66 and pointed.

♀, *forma brachyptera*.—Like macropterous form in almost every particular; wing-pads about attaining middle of tergum II.

BRAZIL: Nova Teutonia, S. C., May 1953 to August 1955, Fritz Plau-mann, 4 macropterous ♀♀ (including holotype taken in September 1954) and 12 brachypterous ♀♀ (including morphotype taken with holotype), under fallen leaves.

***Chorithrips octotoma*, sp. nov.**

Readily known from *heptatoma*, its only congener, by the 8- instead of 7-segmented antennae, and the much longer epimeral setae on the prothorax.

♀ (brachypterous).—Length about 1.6 mm. (fully distended, 1.8 mm.). Color brownish yellow, with pterothorax and tube somewhat more brownish, abdominal terga without median spots, legs concolorous with body; antennae yellow in segments I, II, and most of III, this last darkened with brown in swollen distal portion, IV-VI successively darker and less yellowish, VII and VIII dark blackish brown. Head 217, across eyes 147, just behind eyes 131, across cheeks 143, near base 116, across basal collar 117, across head-process 84, its surface strongly reticulate; cheeks nearly straight in basal four-fifths; postocular setae 22, interval 114, distance from eyes 23; eyes 47, width 38, interval 72; mouth-cone normal to group, 51. Antennal segments: I 44 (37), II 53 (32), III 70 (29), IV 58 (30), V 53 (29), VI 49 (24), VII 36 (19-20), VIII 36 (12); sense-cones on III 1 (1), IV 1 (2); about four apical setae on each of III and IV blunt. Prothorax 123, across coxae 246, pronotum reticulate throughout; epimeral seta 50, curved, slightly dilated at tip, all others (except the vestigial antero-marginals) 13-16 and blunt; mesothorax 245 across anterior angles; metanotal pelta not sharply delimited, reticulate like head; fore tarsi with a moderately strong tooth on inner surface; wing-pads about attaining posterior margin of tergum I. Abdomen 307 at segment II, polygonally reticulate throughout median tergite of I, in most of II, and in about lateral thirds of III-VII between antecostal line and first pair of wing-retaining setae, median third of III-VIII with cross-striae broken into quadrilaterals, VIII reticulate at sides, IX across base; tube 146, near base 67, at tip 24, terminal setae 67; other setae short, I and II blunt, I on IX 43 and slightly dilated, II on IX 80 and truncate.

♂ (brachypterous).—Like female in color and most details of structure; glandular area on sternum VIII occupying about one-half the length of segment at middle, emarginate laterally, not quite attaining lateral margins.

BRAZIL: Rio Caraguatá, Rio Grande do Sul, 1953, Fritz Plaumann, 3 ♀ ♀ (including holotype) and 1 ♂ (allotype), under fallen leaves.

Trypanothrips, gen. nov.

(*trypanon*, a carpenter's tool, a borer; *thrips*—in allusion to the long mouth-cone)

A striking genus, obviously allied to *Rhynchothrips* because of the very long mouth-cone and the general structure; but (1) with the suture bounding sides of pronotum dorsal and continued directly forward nearly to anterior margin, (2) fore coxae (in ♂) with a conspicuous dorso-lateral tooth or keel extending most of the length of the coxae, (3) fore wings abruptly pinched or constricted shortly before middle, (4) tube nearly parallel-sided, (5) terminal setae exceedingly long (more than five times the length of the tube and more than twice as long as width of mesothorax), and (6) postocular and major prothoracic setae short but with broadly-expanded tips, these tips usually constituting about one-half the length of the setae.

Head long, slender, with cheeks nearly parallel; mouth-cone very long, about attaining metasternum; maxillary palpi with very short first segment, the second segment with a terminal seta which is more than twice the length of the palpus itself. Prothorax (in ♂) long; pronotum confined to about middle half of dorsal surface, its lateral limiting sutures dorsal, concave, and extending forward to anterior margin, where its

width is about equal to that of head; fore legs of male moderately enlarged, fore coxae with a dorso-lateral tooth or keel which is higher anteriorly (shaped much like the dorsal fin of a shark), fore tibiae with a tooth on inner surface at apex, fore tarsi with a long, stout tooth; other legs normal. Fore wings constricted at basal third, where their width is about one-half that near base and near apex, the costal margin of this basal third arched forward; posterior margin with accessory hairs near tip. Abdomen with sigmoid wing-retaining setae on segments II-VII, otherwise normal, save for the nearly parallel-sided tube with its extremely long terminal setae, these fully five times the length of the tube, more than three times the length of the long head, and more than twice the width of the mesothorax.

Type species: *Trypanothrips coxalis*, sp. nov.

Trypanothrips coxalis, sp. nov.

♂ (macropterous).—Length about 1.6 mm. (fully distended, 1.9 mm.). Color gray-brown, with red internal pigmentation; abdomen paler basally, shading to dark brown in segment IX, tube dark brown across base and in about apical half, its remainder nearly black; femora about concolorous with body, fore tibiae and tarsi yellow, mid and hind tibiae yellowish at either end and shaded with brown between, their tarsi yellow; fore wings pale yellowish brown; antennae about concolorous with head, segment III yellow in pedicel and dappled with yellow, especially along outer surface, IV much darker than III but yellowish in about basal third. Head long and narrow, its length (211) about 1.5 times the width across eyes (140), width just behind eyes 136, across cheeks 144, in front of basal collar 139, across collar 141; cheeks straight and parallel except where they converge roundly to eyes; dorsal surface narrowly smooth along most of median line, remainder polygonally subreticulate; postocular setae short but unusually stout, broadly dilated at tip, 18 long, 87 apart, and 20 from eyes; eyes 75, about 45 wide and about 50 apart. Antennal segments: I 37 (33), II 55 (28), III 65 (31), IV 70 (31), V 58 (26), VI 58 (23), VII 54 (20), VIII 33 (12); sense-cones short, stout, rounded at tip, III 1 (2), IV 2 (2). Prothorax 220, across coxae 337, across front margin 188; dorsal surface subreticulate in the large lateral plates and narrowly along posterior margin, smooth elsewhere; major setae short, stout, broadly dilated at tip, antero-marginals and midlaterals 10-11, antero-angulars and coxals 20, postero-marginals 17, epimerals 28, this last pair with dilated tips about 15 long and 8 wide; armature of fore legs described under the genus; fore wings 686, only 33 wide where narrowed before middle, with seven accessory setae on posterior margin, the subbasal setae short, very stout, and with greatly expanded tips, the third one of these arising just beyond basal fourth of wing. Abdomen 262 at segment III; median tergite of I triangular, lightly reticulate except along posterior margin; tergum II with dark lines of sculpture sloping backwards toward midline, these mucronate and more reticulate-like toward sides of segment, median area smooth; III-VII very faintly cross-striate medially, mucronate and reticulate laterally; VIII and IX less distinctly sculptured; tube 127, width near base 46, at middle 37, near tip 38, at tip 37, terminal setae 658 (!); wing-retaining and terminal setae nearly black, all others pale, most of latter with broadly dilated tips, I on I-IX broadly dilated, I on the more basal segments with tip bent medially, that of seta I on IV 26,

I on IX 66 and broadly dilated, III on IX (the large lateral seta) 141 and pointed; sterna without glandular areas.

BRAZIL: Nova Teutonia, S. C., January 1956, Fritz Plaumann, 1 ♂ from dead branches.

***Polyphemothrips bursarius*, sp. nov.**

Like *tibialis* in small size, knobbed postocular and prothoracic setae, pale tibiae, and few accessory hairs on posterior margin of fore wings; but with all femora yellow, cheeks greatly swollen just behind eyes to form a pouch which is almost subangulate, rather than rounded, and eyes without enlarged facets at posterior angles.

♀ (macropterous).—Length about 1.9 mm. (fully distended, 2.1 mm.). Color brownish yellow, paler in all of abdomen; tube yellow, tipped with gray; legs concolorous with body; antennae about concolorous with head in segments I, II, and basal half of III, gray brown beyond, pedicels of IV-VII somewhat darker. Head 280, across eyes 185, greatest width across cheeks (opposite posterior margin of eyes) 224, least width near base 164, across basal collar 167; median line of head elevated and roof-like between postocular setae and base, surface almost perfectly smooth except for a few faint reticles on either side of extreme base; postocular setae 64, nearly straight, knobbed, interval 160, distance from eyes 40; mouth-cone 149, large, heavy, broadly rounded; eyes 65, width 53, interval 80, without enlarged facets posteriorly, evenly rounded. Antennal segments: I 39 (42), II 60 (32), III 63 (37), IV 64 (37), V 54 (31), VI 54 (27), VII + VIII 70 (22); sense-cones on III 1 (2), IV 2 (2). Prothorax 160, across coxae 294; pronotum without sculpture, with a small median lobe on posterior margin; epimeral setae 68, postero-marginals 63, coxals 48, others 31-40, all straight and knobbed; mesothorax 270 across anterior angles; fore wings 812, with about four accessory hairs on posterior margin, the three subbasal setae like prothoracics; pelta of metanotum not differentiated, longitudinally striate at sides of base, setae small and pointed. Abdomen 291 at segment III, surface almost perfectly smooth; tube 135, near base 69, at tip 29, sides very slightly concave, terminal setae 114; other setae moderately long, largely knobbed, I and II on IX pointed, 140 and 131, respectively.

BRAZIL: Rondon, Paraná (near Paraguay border), September, 1952, Fritz Plaumann, 1 ♀ from dead branches.

***Plectrothrips bicuspis*, sp. nov.**

Unique among the New World species in having two stout spurs, instead of one, on the middle tibiae.

♀ (macropterous).—Length about 2.2 mm. (fully distended, 2.7 mm.). Color chestnut brown, yellow in basal part of head, posterior half of metathorax, and segment IX of abdomen, much darkened along sides of pterothorax; tube orange brown; legs bright golden yellow; fore wings pale brownish yellow, slightly paler subbasally; antennae largely brownish yellow, segment I brown basally and yellow across apex, II darkened in pedicel and along inner and outer surfaces, yellow at tip, III-VIII with tip and pedicel yellow, the intervening portion shaded with brown. Head 294, across eyes 196, across slight notch just behind eyes 186, across cheeks at their anterior sixth 196, across the negligible basal collar 182; surface lightly subreticulate across base, almost perfectly smooth else-

where, postocular setae 110, curved forward and finely pointed, 171 apart and 48 from eyes; mouth-cone broadly rounded, extending about 107 beyond posterior dorsal margin of head; eyes 100, width 54, interval 89. Antennal segments: I 54 (57), II 74 (43), III 83 (53), IV 71 (53), V 70 (43), VI 70 (34), VII 70 (26), VIII 76 (18); sense-cones short, conical, slightly granulate, III-V with one, only, on each side of apex. Prothorax 188, across coxae 473; pronotum lightly reticulate along sides and posterior margin, smooth elsewhere, posterior margin straight; epimeral setae 181, coxal 158, both curved and sharply pointed, the other setae small (30-58;) mesothorax 453 across anterior angles; fore wings 1360, with about 20-24 accessory setae on posterior margin; pelta of metanotum not differentiated, surface lightly longitudinally striate in about basal half, the two major setae very long (150) and pointed, about attaining first abdominal segment. Abdomen 412 at segment IV, surface largely lightly subreticulate; tube 207, across basal collar 109, at tip 59, sides nearly straight, terminal setae 165; other setae long, curved, and pointed, I on VI 241, I on IX 210, II on IX only 47 but stout and thorn-like (diameter 8), III on IX 238.

BRAZIL: Rondon, Paraná (near Paraguay border), November, 1952, Fritz Plaumann, 10 ♀ ♀ (including holotype), from dead branches.

Menothisrips, gen. nov.

(*menos*, strength, fierceness; *thrips*—in allusion to the powerful body and well-armed fore legs)

Allied to *Plectrothrips*, *Mastigothrips*, *Priesnerothrips*, etc., the head long (as in the second of these genera), but with the fore legs strongly armed, the fore femora having a prominent tooth on inner lower surface near apex (almost as in *Acanthothrips*), the fore tibiae with two parallel prominences at middle of the morphologically ventral surface and with the tip of outer surface somewhat prolonged, the fore tarsi with a very strong tooth which is about equal in size to the rest of the tarsus, the heavy apical "claw" on outer surface tridentate. Head long, broadest across eyes, not produced in front of latter, cheeks straight, postocular setae arising far behind eyes; eyes much narrower than their interval; ocelli anterior, not elevated on a prominence, the median one in advance of eyes; mouth-cone short, unusually narrow, rounded at tip, labium extending far beyond labrum, maxillary palpi short, stout, two-segmented; antennae 8-segmented, normal to group, stout, segments III-V each with two short, stout sense-cones, these on lower surface. Prothorax massive, normal to group, epimeron and coxa each with a major seta. Legs stout, especially the fore pair, which are armed as noted above; middle tibiae with one stout spur, hind tibiae with two. Wings straight, fore pair with many accessory setae on hind margin and with subbasal setae. Abdomen normal, narrower than prothorax; tube short and strongly sclerotized.

Type species: *Menothisrips ebriosus*, sp. nov.

Menothisrips ebriosus, sp. nov.

♀ (macropterous).—Length about 2.2 mm. (fully distended, 2.7 mm.). Color chestnut brown, yellowish in basal part of head and in most of pterothorax, much darkened at posterior angles of prothorax and along sides of pterothorax; tube orange brown, but yellow at tip; legs about

concolorous with body, with all trochanters, tibiae, tarsi, and tips of fore femora yellow, the mid and hind tibiae shaded at middle; fore wings brown, paler at base and in a narrow streak behind middle; antennae nearly concolorous with body in their darker portions, segment I darkest, tip of II and all of III golden yellow, IV and V yellowish but darker, VI-VIII dark brown but yellow basally. Head 304, across eyes 183, just behind eyes 170, near basal collar 153, across collar 156, just in front of eyes 122, with a narrow median suture at base, distinctly subreticulate across base, faintly so in a median area from eyes to postocular setae, nearly smooth elsewhere; postocular setae 116 (sometimes only 89), curved forward and dully pointed, 135 apart and 66 from eyes; mouth-cone extending 114 beyond posterior dorsal margin of head, 87 beyond ventral margin, basal width 77; eyes 102, width 50, interval 84. Antennal segments: I 69 (54), II 70 (45), III 53 (56), IV 47 (53), V 47 (41), VI 54 (32), VII 56 (24), VIII 74 (18), III-V (especially III) wine-glass shaped; sense-cones smooth. Prothorax 280, across coxae 433; pronotum smooth except for subreticulation across anterior margin; epimeral seta 120, coxal 103, others minute (18-28), all pointed; mesothorax 351 across anterior angles; fore wings 1110, with about 17 accessory setae on posterior margin; pelta of metanotum not differentiated, surface finely longitudinally striate, the two major setae long (120) and nearly pointed. Abdomen 389 at segment III, surface almost perfectly smooth, except for the lightly subreticulate median tergite of segment I; tube 124, width near base 82, at tip 37, sides slightly convex, terminal setae 178; other setae long, curved, and nearly or quite pointed, I on IX 109, II 100, III 134.

BRAZIL: Rio Caraguatá, Matto Grosso, August, 1953, Fritz Plaumann, 67 ♀♀ (including holotype) from dead branches.

Lonchothrips, gen. nov.

(*lonche*, a spear-head; *thrips*—in allusion to the shape of the projection on the second antennal segment)

Of the form and general appearance of the allied *Chirothripoides*, resembling that genus in most respects, such as the greatly elongated narrow body, the form of the head, and the general structure of the antennae; but differing most noticeably in the absence of tibial spurs on the middle and hind legs, the long process on the second antennal segment, the prolongation of the tip of the tube into a sharp point, and the one, instead of two-segmented maxillary palpi. Head long, greatly produced in front of eyes, the latter long and closely approaching each other medially; ocelli large, anterior, not elevated on a prominence, the median one in advance of eyes; mouth-cone short, labium broadly rounded, extending far beyond labrum; maxillary palpi one-segmented, as a result of the complete loss of the usual short basal segment; antennae 8-segmented, I long, concave on inner surface for reception of frontal costa (thus paralleling and almost touching its mate), II remarkable in having its base prolonged forward ventrally to tip of III in the form of a heavy triangular flat blade, the remainder of antenna roughly typical of group, except that the pedicels of IV-VIII are very short and barely visible, and that the sense-cones are dorsal or dorso-lateral, with none on inner surface of III. Prothorax very long, consisting of three metamere-like units (!), its surface mostly membranous but with several weakly-defined, inter-

digitating sclerites whose longitudinal inter-striae are continued as lines of stipples in the membranes, the usual sclerites not recognizable, major setae wanting; pterothorax likewise very long. Legs (especially the fore pair) short and stout; "claw" on outer surface of fore tarsi saw-like, with about seven teeth; mid and hind tibiae without enlarged spurs. Wings straight and narrow, the fore pair with accessory setae on posterior margin but without subbasal setae. Abdomen very long and very narrow, without wing-retaining setae and with major setae only on segments I, VIII, IX, and at tip of tube, the more basal terga emarginate at middle of anterior margin; tube remarkable in having ventral surface prolonged to form a stout sharp spine which over-reaches apex.

Type species: *Lonchothrips linearis*, sp. nov.

Lonchothrips linearis, sp. nov.

♀ (macropterous).—Length about 1.6 mm. (fully distended, 1.8 mm.). Color pale yellowish brown, with tube, tibiae, and tarsi paler, and front of head blackish brown; fore wings yellowish gray, with an ill-defined darker median streak except at base and apex; antennae brown, except for the pale yellow second segment and the yellow pedicel of the third. Head 170, across eyes 69, just behind eyes 50, across cheeks (at base of head) 63, length in front of eyes 53, width in front of eyes 49; cheeks membranous from base to eyes, base membranous at middle of dorsum, sclerotized portions very finely longitudinally striate, all setae minute; eyes 73, width 28, interval 13; mouth-cone to tip of labium from posterior dorsal margin of head 68, to tip of labrum 21; maxillary palpi short, one-segmented. Antennal segments: I 50 (maximum longitudinal dimension) (25), II 37 (inclusive of process 80) (22), III 43 (28), IV 32 (33), V 28 (27), VI 25 (23), VII 20 (16), VIII 35 (14); sense-cones short, stout, curved, granulate, III with one on outer surface, IV and V each with two on dorsum near apex, one on either side. Prothorax 196, across coxae 147; pterothorax 363 long; mesothorax 136 wide anteriorly, metathorax 143 wide anteriorly, 125 wide posteriorly; fore wings 700, usually with about six accessory setae; mesonotum very finely longitudinally striate, metanotum similarly striate across base and in about middle third of remainder. Abdomen 119 at segment IV, dorsal surface finely longitudinally striate in segments I-VIII; III-VIII each with a pair of foveae near anterior angles, whose inner anterior margins overhang to form a dark arc; posterior margin of VIII slightly prolonged medially into an obtuse angle; anterior margin of IX with a slight median lobe extending forward under VIII; tube 83 (total ventral length); spine-like process 30, width near base 9; greatest width of tube 53 (at basal fourth of total length), width at distal setae 24, its sides somewhat concave in apical half; terminal setae 61; tergum I with a pair of fine pointed setae (32 long) arising from posterior angles, II-VII with all setae minute, IX with seta I 61, II 73, both pointed.

BRAZIL: Rio Caraguatá, Matto Grosso, August, 1953, Fritz Plaumann, 72 ♀♀ (including holotype) from dead branches.

Preeriella macilenta, sp. nov.

Like *minuta* in having 8-segmented antennae, but with tube stouter, head nearly 2.3 times as long as width across eyes, and setae longer.

♀ (macropterous).—Length about 0.9 mm. (fully distended, 1.1 mm.).

Color pale yellow; head brown in front of eyes, lightly shaded at sides near eyes and more deeply yellow across base; prothorax shaded in epimera and mediat of them, pterothorax slightly darkened in anterior angles, femora slightly shaded on the morphologically dorsal surface; fore wings dark gray basally, paler in distal two-thirds, with a narrow pale median streak beyond middle, this bordered posteriorly by a narrow dark line, most of costal hairs with a dark cloud at base; antennae pale yellow in segments I and II, remainder yellowish gray, III somewhat paler and with base yellow. Head 140, across eyes 61, just behind eyes 60, behind middle 50, near base 55, across head-process 42, the cheeks concave posteriorly; surface reticulo-striate posterior to postocular setae, the cheeks thus serrate in this area; postocular setae 59, straight, swollen at tip, interval 27, distance from base of head only 40; anterior pair of genal setae 33, pointed; eyes about 44, normal in form. Antennae thoroughly typical; segment I 19 (20), II 30 (23), III 18 (17), IV 31 (24), V 32 (20), VI 29 (15), VII 17 (10), VIII 19 (6-7). Prothorax 89, across coxae 121; antero-marginal setae 24, antero-angulars 67, epimerals 47, postero-marginals 43, coxals 47, this last pair and the minute mid-laterals pointed, the others swollen at tip; mesothorax 115, fore wings 495. Abdomen 122 at segment VI, tube 52, across base 36, at tip 22, terminal setae 111; other setae long, many of them dilated at tip, I on IX 77 and slightly dilated at tip, II 71 and pointed.

BRAZIL: Belém, Pará, July 29, 1951, J.D.H., 1 ♀ (holotype), from dead vines on Papaya trees.

Preeriella marginata, sp. nov.

Like *minuta* in having 8-segmented antennae, but with tube stouter, head about twice as long as width across eyes, and antero-marginal setae minute.

♀ (macropterous).—Length about 0.9 mm. (fully distended, 1.1 mm.). Color uniform pale yellow; head not darkened in front; fore wings dark gray basally, in distal half nearly colorless and with a narrow dark post-median line; antennae pale yellow in segments I and II, remainder pale yellowish gray. Head 107, across eyes 54, just behind eyes 53, behind middle 43-44, near base 49, across head-process 39, the cheeks concave posteriorly; surface very faintly reticulo-striate basally, the cheeks scarcely serrate in this area; postocular setae 38, straight, swollen at tip, interval 25, distance from base of head only 33; anterior pair of genal setae 23, pointed; eyes about 33, normal in form. Antennae thoroughly typical; segment I 17 (20), II 27 (21), III 15 (16), IV 27 (23), V 24 (19), VI 24 (14), VII 15 (8), VIII 17 (5). Prothorax 73, across coxae 120; antero-marginal setae 5, antero-angulars 44, epimerals 37, postero-marginals 30, coxals 40, this last pair and the minute midlaterals pointed, the others swollen at tip; mesothorax 103, fore wings 413. Abdomen 97 at segment V; tube 50, across base 36, at tip 20, terminal setae 84; other setae long, many of them slightly dilated at tip, I on IX 40 and slightly dilated at tip, II 55 and pointed.

BRAZIL: Nova Teutonia, S. C., Fritz Plaumann, November 9-11, 1949, 1 ♀ on *Cedrella*; and December 14, 1949, 4 ♀♀ (including holotype) on either *Alchornea* or *Trichilia*.

Preeriella fumosa, sp. nov.

Like *minuta* in having 8-segmented antennae, but with tube stouter,

head about 1.7 as long as width across eyes, and antero-marginal setae large (24).

♀ (macropterous).—Length about 0.8 mm. (fully distended, 1.0 mm.). Color yellow, shaded with brownish gray in all of head, prothorax, along sides of pterothorax, in metanotum, along sides of abdomen, and in most of tube and femora; fore wings dark gray basally, paler in distal two-thirds, with a narrow pale median streak beyond middle, this bordered posteriorly by a narrow dark line, most of costal hairs with a dark cloud at base; antennae pale yellow in segments I-III, remainder yellowish gray, I and III usually very lightly shaded. Head 104, across eyes 62, just behind eyes 61, behind middle 50, near base 51, across head-process 39, the cheeks concave posteriorly; surface very faintly reticulo-striate posterior to postocular setae, the cheeks scarcely serrate in this area; postocular setae 40, straight, swollen at tip, interval 34, distance from base of head only 30; anterior pair of genal setae 17, pointed; eyes (of paratype) 27, width 25, interval 14, normal in form. Antennae thoroughly typical; segment I 15 (19), II 26 (19), III 13 (16), IV 23 (24), V 23 (19), VI 23 (14), VII 15 (8), VIII 19 (5). Prothorax 71, across coxae 122; antero-marginal setae 24, antero-angulars 47, epimerals 37, postero-marginals 34, coxals 36, this last pair and the minute midlaterals pointed, the others swollen at tip; mesothorax 108, fore wings 427. Abdomen 133 at segment V; tube 41, across base 31, at tip 18, terminal setae 68; other setae long, most of them dilated at tip, I on IX 39 and slightly dilated at tip, II 29 and pointed.

BRAZIL: Nova Teutonia, S. C., Fritz Plaumann, May 25, 1949, 7 ♀ ♀ (including holotype) from *Solanum*; October 18-20, 1949, 1 ♀ in capoeira; and May, 1952, 4 ♀ ♀ without further data.

Preeriella discors, sp. nov.

Very different from all other species of the genus in having 7-segmented antennae and a dark blackish brown head.

♀ (macropterous).—Length about 0.9 mm. (fully distended, 1.1 mm.). Color blackish brown in head, brown in prothorax and fore femora, lightly shaded with brown along sides of pterothorax, and with a pair of obscure brown spots at sides of mesonotum, the remainder of body and legs yellow except for the gray-tipped tube; fore wings dark gray basally, paler in distal two-thirds, with a narrow pale median streak beyond middle, this bordered posteriorly by a narrow dark line, most of costal hairs with a dark cloud at base; antennae pale brown in segment I, dull yellow in II and basal third of III, remainder yellowish gray. Head 103, across eyes 63, just behind eyes 62, behind middle 52, near base 50, across basal collar 52, across head-process 40, the cheeks concave posteriorly; surface distinctly reticulo-striate between and posterior to postocular setae, the cheeks distinctly but widely serrate in basal third; postocular setae 43, nearly straight, swollen at tip, interval 35, distance from eyes 13, from base of head 36; anterior pair of genal setae 17, pointed; eyes about 38. Antennae 7-segmented, the reduction from 8 resulting from the union of III and IV; I 15 (19), II 27 (20), III 37 (23-24), IV 23 (17), V 26 (13), VI 17 (8), VII 21 (5). Prothorax 82, across coxae 121; antero-marginal setae 21, antero-angulars 59, epimerals 46-48, postero-marginals 38, coxals 41, this last pair and the minute midlaterals pointed, the others swollen at tip; mesothorax 103 wide, fore wings 462 long, metathorax 109

wide. Abdomen 102 at segment V; tube 49, across base 33, at tip 18, terminal setae 89; other setae all long, many of them knobbed, I and II on IX 56-57, the former pair knobbed.

BRAZIL: Nova Teutonia, S. C., December, 1949, Fritz Plaumann, 1 ♀ (holotype) from *Trichilia* sp.

Hydithrips nanellus, sp. nov.

Like *tesselatus* in lacking a pair of strong setae near inner dorsal margin of eyes, but with much shorter head.

♀ (macropterous).—Length about 0.7 mm. (fully distended, 0.9 mm.). Color blackish brown, with red internal pigmentation, tube darker at middle; legs concolorous with body, tarsi and ends of tibiae paler; fore wings dark gray basally, paler in distal two-thirds, with a narrow pale median streak beyond middle, this bordered posteriorly by a narrow dark line, most of costal hairs with a dark cloud at base; antennae yellowish gray-brown in segments I and II, the former segment darker, III-VIII nearly uniform blackish brown. Head 85, across eyes 73, just behind eyes 72, across anterior end of cheeks 74, near base 66, across basal collar 66-67, across head-process 43, the cheeks thus rounded to eyes and concave posteriorly; surface polygonally reticulate with dark lines which are only slightly elevated, the reticles between postocular setae less distinct; postocular setae 44, curved strongly inward, acieulate apically, dilated at tip, interval 64, distance from eyes 7, from base of head 28; eyes about 38, normal in form. Antennae typical of genus; segment I 13 (20), II 23 (21), III 39 (26), its pedicel only 3 wide, IV 24 (19), V 27 (13), VI 16 (6), VII 19 (4). Prothorax 58, across coxae 133; pronotum transversely depressed across middle above a prominent dark apodeme, smooth, reinforced with a dark line along straight posterior margin; antero-marginal setae arising 9-10 behind the margin, 44 long and 60 apart; antero-angulars about 3 behind margin, 46 long and 72 apart, epimerals 36, postero-margins 51, all with dilated, bent, divided tips, coxals 43 but weaker, paler, and pointed; mesothorax 118, metathorax 123, wings 427 long, all normal; metathoracic pelta with elevated reticulated elliptical basal portion. Abdomen 117 at segment V; tube 41, across base 33, at tip 19, sides slightly concave, terminal setae 71; other setae long, most of them dilated at tip, I on IX 72, dilated at tip and heavy, II 63, slightly dilated at tip and slender.

BRAZIL: Nova Teutonia, S. C., November 1955, Fritz Plaumann, 1 ♀ (holotype), from dead branches.